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THE

WESTERN JOURNAL

and Civilian.

VOL. VIII. July, 1852. No. IV.

ARTICLE I.

The North and the South.

Perhaps no other cause has so much hindred the progress of civilization as the want of commercial and social intercourse between the inhabitants of different and distant climates. For although the primary and principal wants of man correspond to the physical condition of the immediate region of his birth and residence, yet, it is an inherent property of his nature to desire the enjoyment of the atmosphere and scenery as well as the fruits of other climes. The natural products of his own country, improved by labor and art—whether of food or clothing,—constitute the substantial basis of his subsistence; but luxuries—those things which most delight his senses and socialize his nature—are chiefly derived from foreign lands. These are the choice offerings, the tokens of a common brotherhood, pledges of friendship, and acknowledgements of mutual dependence which the people of one climate exchange with those of another. In this economy of nature, we observe a provision, not less benevolent than beautiful, binding together the hearts of her children in mutual affection by the exchange and common enjoyment of whatsoever is most desirable and pleasing to their senses.

In all this, there is a meaning which, if rightly understood, is calculated to excite emotions of gratitude in the heart of the philanthropist, teach wisdom to the statesman, and suggest to the patriot the best and surest means of promoting the happiness and true glory of his country. The enterprising capitalist, too, by the study and observance of these natural laws will be enabled more fully to comprehend the principles of individual and political economy, and realize larger as well as more certain and permanent profits from his investments.

We need not look to the annals of other countries for instances of enmity, of strife, and even of exterminating wars occasioned by the want of social intercourse and facilities of exchanging the products of one climate for those of another. Unhappily the history of our country presents a state of facts sufficiently significant and impressive to invoke the profound consideration of every citizen. Where is the individual who has not witnessed with painful emotions the alarming prejudices which have taken root in the minds of the people of the North and the South against each other? Who can forget the intense anxiety and fearful foreboding with which every lover of our common institutions looked to the proceedings of the thirty-first Congress? And where is the heart that has not glowed with gratitude to the Ruler of the Universe for having preserved the existence of the great *Pacificator*, until the storm which had been gathering for years, descended with its concentrated fury upon the nation?

Amidst the strife of conflicting elements stood the venerable statesman, and with clarion voice that rose above the storm called upon the nation to rally under the broad flag of the Union. His voice, his counsels prevailed. A compromise ensued. The heart of the patriot rejoiced, and another bright page, inscribed with names that shall never perish, was added to American history. Yet, it was but a compromise: an agreement between the people of the North and the South, that they remain in the Union, and abide by the constitution adopted by their forefathers. But the laws of nature which mould and fashion the physical constitution, the habits and inclinations of man, remain in full force as before. Nor were the relations of the people, in respect to those laws, in anywise changed or modified by the act of compromise. Hence it is obvious that the causes of enmity and prejudice remain unimpaired, and that their effects will sooner or later be developed in a form destructive to the harmony and even the integrity of the Union, unless a remedy more potent than acts of legislation can be found, and applied in time to avert the coming evils.

The prejudices between the inhabitants of different climates arise from physical causes, and can only be removed by physical agents. We are not permitted to abrogate the laws of nature, but may modify their operations, and change their normal effects, so as to subdue their evil tendencies, and make them subservient to the happiness of man. This is a duty enjoined by the Creator, and like other moral and religious duties, claims the observance of all men.

"The circuit of the winds," the frosts of the polar regions, and the scorching heat of the torrid zone, are conditions of our globe that we cannot change; but we can make them the agents and sources of phys-

ical comforts. And by gratifying our natural desires for the products of distant climates, we may socialize our natures, and enlarge the circle of our sympathies, until they embrace the inhabitants of the whole earth.

How are these ends, upon which depends the further progress of civilization, to be attained? In the properties of steam, we possess an agent, by which, if wisely directed, those physical conditions of the globe which have always operated as barriers to the interchange of social offices between the inhabitants of the North and the South will be made the chief socializers of the human family. A desire for a change of atmosphere, and the inclination of almost every one to visit new scenes, and observe the manners and customs of the people of distant lands, can all be gratified at so little cost of time and money, by the agency of steam on railroads running in a northern and southern direction, that in a social and commercial view the entire region between the northern boundary of the United States and the Gulf of Mexico is reduced to the dimensions of a county of ordinary size.

The social and business relations which would be established between the inhabitants of every part of the country, by this new state of things, would be so intimate, and withal so agreeable, that there would be no ground for the existence of sectional prejudices, and consequently no desire for a dissolution of the Union. Indeed, with the advantages of a thorough system of railroads extending in a northern and southern direction, every degree of latitude which might be added to the territory of the nation, whether on the North or South, would increase the variety of useful commodities in an equal degree throughout the entire land.

Hitherto, in the history of man, the benefits of civilization have been enjoyed chiefly by the inhabitants of the temperate zone; and even in that region the people residing near the sea coast, and those on narrow peninsulas and islands, with few exceptions, have monopolized the arts as well as the principal profits derived from the labor of those inhabiting interior districts. But with a well devised system of railroads, traversing a continent in all directions, the principal seats of civilization will be transfered from the borders to the centre where the greatest variety of useful commodities can be collected at the least cost of transportation, and where the intellectual and moral powers of the inhabitants can exert the broadest influence.

We have suggested these views of the influence which natural laws, unmodified by the intelligence and labors of man, exert upon the destinies of nations, with a hope that they will incite a spirit of inquiry in the minds of our readers in respect to the best mode of preserving not only the union of the States, but of promoting the hap-

piness of the people. We are persuaded that every intelligent mind is conscious that there is a want of homogeneity between the people of the North and the South, and it is obvious that railroads, built aross the continent from east to west in parallel lines, will not tend in any considerable degree to remove existing prejudices, or harmonize the discordant elements which disturb the quiet of the nation.

The region west of the Mississippi more than any other habitable part of the continent, requires railroads leading from north to south. The greater width of this region, and its remoteness from the Atlantic coast, demand the adoption of a system peculiar to itself. A system that will exchange the products of Minnesota for those of Louisiana and Texas on the shortest lines of transportation; that will enable the inhabitants of these remote regions to meet each other in social intercourse in the shortest time; that will make the climate of each accessible to the other at all seasons, and diffuse throughout this great division of the continent a common sentiment of fraternal regard as well as the proceeds of its varied climate and soil.

By how much more would the citizen of Louisiana value his estate if, without encountering the dangers of a tedious passage on the Mississippi, he could retire with his family to a summer residence in the Undine region, or amidst the thousand lakes of Minnesota in the short space of two days? And by how much more would the inhabitant of Minnesota appreciate his situation if, in a similar period, he could escape the frosts of his own winters, and enjoy the more genial temperature of a southern climate with all its luxuries? But the central region would be a greater gainer than either; for its inhabitants might change their residence to either extreme in the short space of twenty four hours, or they might remain at home and feast each day on the choice products of both regions.

Had we written this article twenty-five years ago, it would have been regarded as an effort of the imagination; or we should have been set down as a madman. And even now, men who have travelled at the rate of thirty miles an hour, seem to doubt the possibility of travelling six hundred miles in twenty-four hours. It may be they have been drawn by a locomotive one hundred miles in three hours, but their minds had never consented that the thing was practicable until they tried it; and now, after their experience, their minds are incapable of grappling with the idea that the same speed could be continued for thirty hours.

We have been laboring for some years to familiarize the minds of our readers with the idea of a railroad from the Gulf of Mexico to the Red river of the North. And that we might not be suspected of insanity, we have presented the line in detached sections, and dis-

cussed the local advantages to be derived from each as seperate and independent works; but believing that the time has arrived, when the entire project should be presented to the people of the West and also to the national legislature, with a memorial for "material aid," we respectfully invoke the people of Iowa, Missouri, Arkansas and Louisiana to unite in promoting the accomplishment of an enterprise which, in addition to all its local benefits, we sincerely believe necessary to secure prosperity and permanency to our national institutions.

It is expected that a railroad meeting, which is to be held at Little Rock, Arkansas, on the fifth day of the present month, will appoint a time and place for holding a general convention in respect to the section of this great line which lies *south of St. Louis;* but we are persuaded that it is the true policy of the South as well as the North to unite in urging upon Congress the just claims of the people west of the Mississippi to a liberal grant of land in aid of the entire line from New Orleans to the Red river of the North, with a branch to the Falls of St. Anthony. We know that the country through which the more northern portion of this route will pass, is at present uninhabited; and that it will be some years, before the business of that region will authorize the construction of works of public improvement. Yet, there is great propriety in considering that section as constituting a part of the entire scheme. This view of the subject will give dignity and strength to the project in all its parts; and a grant of land in aid of the work through the Territory of Minnesota would cost the General Government no more now than ten years hence. Indeed, such a grant would greatly encourage the settlement of that region, and enable the emigrant to select his location with better judgement. Many years must elapse, before a work of such magnitude can be accomplished; indeed, much time must pass away between the first conception and the perfect organization of the plan. It is too vast in its proportions as well as in the consequences which must attend its consummation, to be appreciated at the first view.

In its nature the project combines all the elements of a national as well as a local work; and this, though its greatest commendation, is calculated to excite suspicion and jealousy in the mind of men whose views and objects are chiefly selfish. For they cannot readily comprehend the idea that a work can be profitable as a local enterprise, while it imparts important benefits to the public at large; or, if it be calculated to develope the resources, and build up the cities of other States. Time must be allowed such minds, to work out the problem which proclaims the great fundamental principle in social and political economy: that private and public interests are one and inseparable, and that neither individuals nor communities can shut themselves up

from the intercourse and sympathies of all others without incurring the penalties of neglect and degradation in the estimation of the civilized world.

In view of the mighty benefits, individual, social and political which this great work is calculated to produce, we earnestly invite every lover of our common country to investigate its claims to their countenance and active encouragement. Let none be appalled at the apparent magnitude of the enterprise. For if the people west of the Mississippi unite in willing its accomplishment, Congress must yield to their demand for aid; and the consummation of the work, with all its consequents, will most surely follow, as the effect of their desires.

ARTICLE II.

Some Remarks on the Geology of the State of Missouri.

By Dr. H. KING, of St. Louis.

The entire area of the State of Missouri, since the definite settlement of its boundary line between the States of Arkansas on the south, and Iowa on the north, is about sixty-seven thousand square miles. It is divided into two nearly equal portions, north and south, by the Missouri river, which crosses it in a nearly east and west direction. It was my intention to have confined my remarks to that portion lying south of this river; but the paper submitted at the present meeting from Dr. D. D. Owen, U. S. Geologist, no doubt, otherwise, as correct as it was interesting, containing some inaccuracies, or inconsistencies with the information I have collected as to the outlines of the coal deposits and Carboniferous formation of this portion of Missouri, I shall take occasion, when treating on these subjects, so far to overstep the limits which I originally proposed in this paper, as may be necessary to give my views on them.

With this exception, I shall confine my remarks to the country south of the Missouri river. What I have to say is almost exclusively the result of my own observations, made from extensive explorations, and in small part, from reliable information which I have been able to collect from others during the explorations. Notwithstanding I have devoted much time to this subject during the

* The following paper was read by Dr. King before the "*American Association for the advancement of Science*," at its meeting held at Cincinnati, Ohio, May, 1851. We copy from the published proceedings of that learned and useful society.—*Editors.*

last twelve or fourteen years, with the most anxious desire to increase my knowledge, I am still conscious that a great deal remains to be done; that many more years of constant exploration and careful observation, are necessary to work out a correct and complete account of this highly interesting portion of the United States. What I have, therefore, to present to the consideration of the Association, must be considered rather as a sketch, the outlines of which may be assumed to be generally correct, but whose complete filling up will require considerable more time and observation.

The geological formations of this region consist of the Primitive, the Silurian, Carboniferous, and Cretaceous; together with the more recent alluvial and diluvial deposits, common to the whole of this portion of the Mississippi valley. I shall confine my observations, however, to the three first named; the alluvial and diluvial deposits presenting nothing of peculiar interest, whilst the supposed Cretaceous or Greensand, occupying a somewhat isolated position in the south-eastern portion of the State, has not yet become the subject of my explorations. To make my remarks more intelligible, and of more ready appreciation, I have prepared several sections, crossing the formations in different directions, starting from and terminating at different points; and also several diagrams, to elucidate more clearly local phenomena; but as none of these will accompany this paper in its printed form, I shall endeavour to make my remarks comprehensible without their assistance.

Instead of describing geographically the outlines of each formation, which would require considerable familiarity with the topographical and political divisions of the State, to understand without constant reference to the map, I shall follow these formations as they present themselves in the large profile or section which I have the pleasure of exhibiting to the Association. This will enable me to give a very correct general idea of the stratigraphical relationship of the formations, whilst by occasional reference to the small diagram which I have prepared for the purpose, I shall be able to make sufficiently near approximation to the several superficial areas and relative positions. This section is intended to show the geological character of the country from St. Louis, in a direction a little west of south, to the Iron Mountain and Pilot Knob. Extending about eighty miles, it embraces our three great or principal formations—Carboniferous, Silurian, and Primitive. The horizon or level from which we take our departure, is near the upper surface of that limestone on which St. Louis is built, and which some, in their zeal to make every thing American conform to an European type, have described as "Mountain limestone," "Yorkdale limestone," etc., etc. Without passing through it, this limestone has been bored into for more than four hundred feet, for the purpose of making an Artesian well. I estimate its entire

thickness to be between five and six hundred feet. It is purely a calcareous rock, occasionally including nodules and irregular sheets, rather than strata, of Silicious matter. The beds of which it is composed are generally thick, often massive, and rarely thin or shaly. Its general dip is toward the center of the great Illinois coal basin, or nearly north-east; but this dip is at a very small angle. Consequently, rising slowly as we advance over it in the direction of our line, we do not pass its final or lowest outcropping edges, until we have reached the distance of some fifteen or twenty miles from the point of our departure.

Ascending however with greater rapidity than the strata, as must necessarily be done in following this line, the explorer finds himself temporarily above this subdivision of the Carboniferous formation, about five miles south, and here encounters the coal itself, in a deposit averaging about four feet in thickness, and extensively worked for the supply of the city of St. Louis. This coal-bed then lies above this massive limestone deposit, and separated from it by only a few feet of clay, and is covered with limestone, with thin deposits of shale occasionally intervening. It is not correct to call this coal deposit an outlier of the Illinois coal basin, and could only have been so considered, by looking for its line of connection in an easterly direction, instead of a northeasterly one, the true direction of the dip of the basin. These mines are worked in the extreme south end of an angular projection of the Illinois coal basin, occupying apparently a slight depression of this form in the underlying limestone; one side of the angle crossing the Missouri river about twenty miles northwest of St. Louis, the other reaching the Mississippi six or eight miles above that city; the first connecting with a similar deposit on the north side of the Missouri, the other doubtless having its connection with the coal deposits that rise above the level of the river, in the Illinois bluffs, opposite St. Louis. As these lines are the boundaries or outlines of this coal bed south of the Missouri river, we ought to, and probably shall find coal throughout the area they embrace. As yet, few or no explorations have been made anywhere in it, in search of this material, except at the mines just referred to, and along the bluffs of the Missouri and Mississippi, where it is found outcropping. Whether it can be worked advantageously in competition with the many other mines near St. Louis, must depend in a great measure upon the quantity and quality of the coal, the depth of the bed below the surface, and the facilities or difficulties attending its exploration.

Having thus shown that these coal deposits near St. Louis, on the west side of the Mississippi river, are not mere outliers or small detached basins of the great Illinois coal field, but in fact a continuation thereof, and covering an area probably of one hundred square miles, let us proceed with our remarks. Passing over the extreme southern point of the coal deposit, we again reach in

tracing out our original line, the underlying limestone; being the same as that on which we established our starting point, and which for convenience of description or designation, we may call the St. Louis limestone, without stopping to inquire whether it does or does not correspond in some of its features with some foreign deposit of this formation. This limestone is strictly Carboniferous, as is proven by its position, as well as its fossils. If we take into consideration the extent of the great coal basin to which it belongs, and assume it to have a nearly equal area, and a thickness averaging what it has in St. Louis, it must be one of the most enormous deposits of carbonate of lime on the face of the globe.

Below the limestone, we have next in order a silicious sandstone, generally of a brown color, from oxide of iron, with which it is sometimes highly charged. Its thickness is generally from forty to one hundred feet, and it comes to the surface on the Mississippi, a short distance below the mouth of the Merrimac River, and on the Missouri, about thirty-five miles west of St. Louis. It is an interesting portion of the formation, as it appears to have some relation to the salines, or salt springs of the State. In the western part of Missouri, on and near the upper portion of the Osage river, where the Carboniferous formation is still more largely developed than in the eastern part, I have always found the salt springs close to this deposit. Whether the saline materials are embraced within this sandstone, or whether the porosity of the latter makes it a fitting conduit for the saline fluids of the higher plains of the Northwest Territory, and through which it finds an easy passage to the lower level of the States of Missouri, Illinois, etc., I am not prepared to say.

Below the sandstone is the second important coal deposit of Missouri. It appears to consist sometimes of a single bed, and often of two beds; in the latter case with a few feet of clay and shale intervening. It does not appear to have been found as constantly as the superimposed sandstone, and occasionally it seems to thin out to a single bed only a few inches in thickness. The coal of this, as well as of the upper deposit near St. Louis, is bituminous, burns freely, with a long flame, a slight agglutination of particles, and leaving a moderate residuum as ashes.

This deposit is succeeded or underlaid by another limestone, which I estimate at from two hundred to three hundred feet in thickness. I have generally classed it as belonging to the Carboniferous formation, with some hesitation however, as some of its contained organic remains, seem strongly to indicate it as Devonian. But as I have not implicit confidence in the applicability of all geological subdivisions made in a remote country, and on a comparatively limited area, to the condition of things in this country, I am not disposed at once to concede this portion of the formation of Missouri to the "Devonian" merely because it contains a few fossils, sometimes considered as belonging to that formation

in Europe, while quite as many, if not more, would be classed as Carboniferous.

Having thus reached the line of demarcation, though a debatable one, between the Carboniferous formation of Missouri, and the formations that underly it, it will be a proper time to give the general course or directions of this line. For reasons before adverted to, I shall not only give it from my own observation on the south side of the Missouri river, but from the best information I have been able to collect, endeavor also to follow it on the north side of that stream, commencing on the western boundary of the State, at a point near the head waters of Sac river, a tributary of the Osage, thence northeasterly nearly with the course of that tributary to its junction with the Osage river, thence down the Osage to the vicinity of the town of Warsaw, thence with an irregular but generally northeasterly direction to the Missouri river, a few miles west of Jefferson City, the capital of the State, there crossing the river, and continuing the same general direction to Salt river, in the northeastern part of the State. The information I have collected, leaves it somewhat doubtful whether the line does actually continue on to, or near Salt river, intersecting, or rather joining, the line which we have yet to follow from this point southwardly; or whether it does not become more deflected to the north, and ascend near or quite to the boundary line between Iowa and Missouri. Leaving this, however, to be settled by future investigation, and commencing on Salt river, we continue the line in a generally southerly direction, nearly parallel with the Mississippi river, and probably about thirty miles, as a general average, distant from it, until it reaches the Missouri river, opposite the point to which we have already traced it on the south side of that river.*

All that portion of the State lying on the convex side of the line above described; that is, on the northwest, north and east, following it in the order in which the line was described, is Carboniferous. It is yet, however, to be determined *positively*, whether these are portions of one and the same great coal basin, or whether they are distinct and disconnected, by the somewhat elevated range of land that divides the waters of the Missouri from those of the Mississippi. My own impressions are in favor of the former, though if the latter should prove to be the case, we shall still find that the area of the formation in Missouri, will probably exceed twenty-five thousand square miles.

It would lead to no useful result, to dwell longer on that lime-

* There is another small portion of the Illinois coal basin, that crosses the Mississippi river into Missouri, embracing the town of Ste. Genevieve, and a semilunar tract below it, but which is of comparatively little importance, except for the evidence it gives of the constant recurrence of the salt springs, in this, the lowest portion of the formation. Here the sandstone and lower limestones occur, but coal has not yet, I believe, been found.

stone which I have already referred to, as being the deposit with which, or in which, the Carboniferous formation terminates. I flatter myself with being able at some future time, to investigate it more carefully than I have yet done, and to determine its true character.

Passing below this, we arrive at a portion of the formation that corresponds with, perhaps it would be more correct to say that is a continuation of, the lead bearing rocks of the upper Mississippi, and its underlying blue limestone. For here these two divisions are so intimately connected, that their fossils are apparently indiscriminately mixed throughout the entire division. The distinctive lithological characters existing in the subdivisions of the country on the upper Mississippi river, are also lost in Missouri, the whole being blended into one grayish or ash-colored limestone, averaging probably about one hundred and fifty feet in thickness. Some small veins of lead ore occasionally make their appearance in this division of the Missouri metalliferous rocks, but nowhere has it yet been found in quantities sufficient to justify exploration.

With this division, we enter upon what is considered, and commonly received in this country as the Silurian formation. In adopting this name, we wish it to be understood that we do so, as we presume every other American geologist does, as a temporary expedient, to enable us to compare our observations with those made by others under similar circumstances, and not as a fixed system in our nomenclature. The investigation of American geologists has already shown that the United States has the entire Palaeozoic series developed on such a scale, that instead of borrowing terms significant of its subdivisions from foreign countries, it has a right to aspire to the honor of offering a regular series of types to them. The naming of these types is a subject that is very properly yet held in abeyance, and it will doubtless be one of the duties of the "American Association for the Advancement of Science," to settle the question for this country, at least, if not for the scientific world.

Following in a descending order the rock or deposit which we have just referred to, as embracing "the Lead-bearing," "Magnesian limestone," (for these several names have been all used to designate it,) and the Blue limestone which underlies it on the upper Mississippi river, we have a sandstone exactly corresponding, in lithological character, to the sandstone underlying the Blue limestone of that region. Like that, it contains no fossils, and therefore we are obliged to rely, in determining its position, upon the next two most important evidences—its stratigraphical and lithological characters—these exactly agreeing with the same deposit on the upper Mississippi, we have no other alternative than to accept it as the same.

The investigations of Prof. Hall, the able palaeontologist of the New York Geological Survey, having determined the position of

"the Cliff and Blue limestones," just now described, the latter of which, at least, he says, is the equivalent of the Trenton limestone, we have a horizon for our starting point, over which the Survey has shed such a flood of light, that we trust to find our way in the twilight it spreads over our Missourian researches. But we shall attempt little else, at this time, than to lay the results of our own explorations before the Association. The observations of a single individual, under far more favorable circumstances than it has been our good fortune to enjoy, over so extended and varied an area, would necessarily be very imperfect: to draw hasty and bold conclusions from them, would require a spirit which he who has the honor of addressing you, trusts is not one of his attributes.

If we correctly appreciate the determinations of Prof. Hall, and other eastern geologists who have extended their researches into the Mississippi valley, the sandstone now under consideration is by them supposed to be the equ valent, at least, of the Calciferous sand rock of the New York Survey. If this could be determined definitely, on palaeontological evidence, or even problematically, by strong lithological resemblances, its stratigraphical relations might be accepted as sustaining the idea. But as we are not aware that any assistance is derived from either of the two former, the argument derived from the latter must be based upon an assumption that is itself to be proven, and which we may hereafter have occasion to show is doubtful, in a high degree. It may prove to be the Calciferous sand rock of New York, or its equivalent; but it does not necessarily follow that it should be so because there is no other member of the Palaeozoic series of that State to which it can be referred. We know of no great geological law that requires such an absolute subserviency to only one system of any country so varied and extensive as ours. It is quite within the range of probability that this sandstone does not exist in the New York series; and it is even possible that there may be other great centers of formations in the United States, besides New York, or even the Alleghany mountains, from which not only this sandstone, but perhaps some other of those subdivisions which the New York system appears so ready to absorb, may more properly be derived.

This sandstone is remarkable for its pure silicious character. Occasionally it is colored slightly by iron, but generally very white, and apparently free from all foreign admixture. Sometimes hard enough for building purposes, it is more generally soft or friable, and easily reduced to the condition of sand. It is exported in considerable quantities for the manufacture of the finest quality of glass. It frequently makes its appearance in the top of the hills between Ste. Genevieve and the Merrimac river, presenting a bold, wall-like escarpment or bluff. In these cases it has received the common name of *Rock Fort*, in the county. Its thickness, I am disposed to believe, varies considerably, but may be assumed generally at about one hundred and fifty or two hundred and fifty feet.

Next in order below this sandstone, we find a second deposit of Magnesian limestone, much resembling the one above the sandstone just referred to; and also like, in many respects, the same species of limestone that makes its appearance on the Mississippi river, at and near the mouth of the Wisconsin river. It is generally of a light yellow or buff-color, sometimes intermixed with strata of a reddish brown or green. It is not often massive, but generally in thin beds; and when it crops out, often gives origin to numerous barren belts or spots, around which the forest, rising in all its primeval luxuriance, presents a peculiar semi-cultivated aspect to this region. It appears sometimes to have interposed deposits of sandstone, whose continuity I have not been able to determine. So far as my investigations have gone, it appears to be destitute of fossils. I have not been able to make a satisfactory approximation of its thickness, but am satisfied it is much greater than the last described magnesian limestone; provisionally, it may be assumed at five hundred feet. It appears, also, to be destitute of lead ore in workable quantities, but often contains iron ore in promising abundance and quality. We cannot stop to inquire to what particular subdivision of any of the systems of this country or Europe it can be assigned; the same difficulty would attend this, as the sandstone we have just discussed. To give it a general location, to enable the inquirer to carry it more readily in his mind, it is sufficient to say that it lies below the Trenton limestone of the New York Survey, and amongst the lowest of the Silurian system.

The next member of the series that presents itself in the descending order, is a *sandstone*, so exactly resembling the one last described, in its lithological character, that it is impossible to designate any distinguishing difference, except that its lower portion passes, when fully developed, into a cherty mass, sometimes porous, often compact, and covering the tops and sides of the hills and ridges with its comminuted remains. This sandstone is generally not quite so largely developed as the preceding one, and may be estimated at about one hundred and fifty feet in thickness. In the sandstone, properly speaking, I have never found any fossil remains; but in its lower cherty portion, they frequently occur. Several species of *Lituites*, *Euomphalus*, *Pleurotomaria*, *Nutica* are the forms that most frequently present themselves, but I have not been able to identify any of the species with those of similar genera of other countries. If we assimilate the sandstone last described with the Calcareous sand rock of New York, surely there is none other left in that system to which we can assign this one, than the Potsdam sandstone. But, to do this, we must disregard its palæontological character, and rely only on its stratigraphical relations. But is this necessary? Shall we, merely to maintain the order of a system that is undoubtedly very regularly made out for the region to which it belongs, disregard

this, the most important of our geological means, in determining sequences, and place our confidence in one far less reliable? Such a course would be a devotion to *system* more allied to a species of bigotry, than is consistent with rigid scientific investigation. This may be an independent formation, not represented in New York or elsewhere, and yet so nearly contemporary with the first evidences of organic existence there, as to be associated with them in the same geological epoch. To deny this, would be to assert that all primordial existences were of one character, and must have been created and nurtured under exactly similar circumstances. This we know is not the case; for the difference in lithological character of the earliest palæontological periods are as great as we suppose the organic contents may have been. Besides, this doctrine of unity of character would also lead to that of *one great center of creation*, which the imagination can more readily conceive, than we can, by our reasoning faculties, prove. If we assume such a center, where shall it be placed? In Russia, in Great Britain (the country of the ancient Silures), New York, or where else? And having located it, how are we to send off the colonies of organic beings, whose remains are offering themselves to our investigation, with the thousands of others, necessarily linked with them in the chain of mutual dependence, but whose organization we may suppose was of such a kind, as to leave "not a wreck behind." Is it not more reasonable to suppose that there were primary seats of organic life—centers of organic creation, around which were clustered beings adapted to the varied circumstances of each locality? Such a theory would be far more consonant with existing laws of nature; and it is far more safe to base our reasonings upon them, than to fly to others whose character depends upon the fertility of our imagination only. There may have been so near an approach to uniformity of circumstances in some of our geological epochs, in all countries—for instance, in the Carboniferous—that a like uniformity might be expected in the remains of the Flora and Fauna of these periods. But because this has occurred once or twice, or more frequently, it does not follow that it must always have been the case.

There is nothing, to our minds, inconsistent with the principles of geological science, in admitting a great variety of forms amongst the earliest created beings. In fact, such a variety there must have been for mutual support and permanent existence, or we must invoke some other than the ordinary laws of nature, to account for their continuation and propagation. And then, as now, every thing was adapted to the circumstances and the place to which Creative Power had assigned it. Fishes did not fly in the air, nor birds dwell in the depths of the sea. If the inanimate matter of one of these localities was inimical to the existence of one of the primitive forms of organic beings, that form would not have been placed there, but elsewhere. Why, then, may it not be, that dif-

ferent forms, under different circumstances, shall indicate like or contemporary periods? Do the earliest forms of organic life in the Potsdam sandstone, or the oldest of the Silurian rocks of Europe, occur in a purely silicious rock, that often assumes the appearance of semi-opal, chalcedony, or jasper, as is the case in Missouri?—a material that indicates not only a striking peculiarity in the saline contents of the ocean in which these beings existed, but a strong probability that it was accompanied by an elevated temperature of the waters. Such a condition of things might not have been incompatible with the existence of such forms as we find in the earliest fossiliferous beds of Missouri, but may have been entirely so with such as are found to characterize the, probably, same geological period in other places.

Before leaving the sandstone, it may be remarked, that in some particular localities, it undergoes a change, or passes into an almost pure feldspathic rock, whose decomposition gives rise to large deposits of kaolin. This alteration appears to have some local cause—at least, I have found it, as yet, most frequent in the vicinity of the primitive rocks, whose constituents, we shall see, always embrace a large portion of felspar.

Following this sandstone and chert, we have another Magnesian limestone, the last and lowest of the sedimentary rocks of Missouri. I use the term sedimentary because, although no distinct fossil remains have ever yet been detected in it, I have found some obscure markings which leave it uncertain whether it should be considered as Azoic or Palæozoic. In an economical point of view, it is far the most important of the Missouri rocks. In it are found our lead, copper, cobalt, nickel, and a large portion of our iron deposits. Fortunately, its area is commensurate with its value. It covers from fifteen thousand to twenty thousand square miles, every where giving indications of its hidden treasures, some few of which are made to add to the productions of the State.

The thickness of this limestone is not known. It has been penetrated by valleys and mines to the depth of three hundred and fifty or four hundred feet, with no indication of its termination. Near the top, it is sometimes thinly stratified, approaching almost to a schistose character; but below it becomes massive in its structure, very hard, generally, but weathering rapidly into irregular forms when exposed.

As I have had cause to give much attention to the mineral productions of this rock, it has given me many favorable opportunities to investigate the conditions under which these productions occur in it. But to do any thing like justice to this interesting subject, would require much more time than I could feel myself at liberty to consume on this occasion. From the little disturbance to which our formations generally have been subjected, and the great facility with which the mineral bodies in this division are followed, many of the difficulties which attend such investigations in other coun-

tries, do not exist here. Hence, we may hope that when mining operations are more extensively and systematically conducted in Missouri than they have yet been, many obscure points that now exist as to the origin of mineral veins, and their relation to the included rocks, will be satisfactorily cleared up.

I cannot, however, dismiss this part of my subject without referring to the coal deposits sometimes found in it, particularly in the vicinity of the Osage river. When I first met with this mineral in this position, having, as I supposed, made out the true geological position of the containing rock, it gave me considerable difficulty and embarrassment. Subsequent investigation has fully satisfied me that this Carbonaceous deposit is of a posterior date to this deposition of the limestone, and in all probability cotemporaneous with the lower coal beds of the Carboniferous formation of the State. A section of one of these deposits, occupying the cavity of a lode in the Magnesian limestone, I exhibit to the Association, to give more distinctly the manner of its occurrence. From the cheeks or sides of the lode, I collected some thin plates of copper ore, (*pyrites*,) and it is quite probable that this was originally a lode of this metal, the latter removed by some cause, probably atmospherical, and its place filled by the Carbonaceous mineral. In other places, I found it occupying the heads or terminations of small valleys and ravines; in one of which, mining for lead ore was being successfully prosecuted on the slopes of the valley, a few feet above the coal. In another instance, a few hundred feet from one of these deposits, a well had been sunk about eighty feet deep, and consequently far below the level of the coal bed. But no coal made its appearance in the well. Though not appearing to exist in large quantities, generally, in any one place, these coal deposits sometimes justify regular mining; and in one instance, a shaft more than thirty feet in depth, has been sunk through it without reaching its termination downward. I have never found the coal accompanied by any other rock formation than the adjacent walls, nor with vegetable or other fossil remains. For its character, I refer to the Report on American Coal, made to the Navy Department of the United States, by Prof. W. R. Johnson, where it is described as "Osage river coal."

The primitive formation of Missouri is first met with on our line near a point about seventy miles south of St. Louis, and thirty west of the Mississippi. It consists chiefly of granite, syenite and porphyry; and is what its name indicates, truly the primitive rock, or oldest solid matter of the State. It rises sometimes in cone-like elevations, at other times as detached ridges, to the hight, often, of a thousand or twelve hundred feet above the level of the Mississippi river. Its sides and valleys are frequently covered with the sandstone and limestone heretofore described, and in such quiet relationship as to show that their deposition has taken place since the primitive rocks had assumed the form they now have.

We have collected a great many facts, which show beyond the possibility of a doubt that this is the case. It is not at all unusual to find portions or fragments of the older rocks imbedded in those that are stratified. This occurs not only in the lowest Magnesian limestone, but in the overlying sandstone, the lower or cherty portion of which, we have shown, is abundantly supplied with fossils. An interesting example of this is seen on a small creek near the celebrated mine La Motte. Here the sandstone, in regular horizontal strata, is seen abutting against a ridge-like elevation of red granite, and embracing, in the midst of the regularly stratified mass, large and small fragments of this granite. It appears, also, that these primitive rocks, or at least the granite, had been subject to serious disturbance before the deposition of the superincumbent rocks; for we often find it broken through by greenstone trap dykes on a large scale, without any disturbance of the more recent formations. A beautiful and interesting example of this exhibits itself only a few hundred yards from the place just referred to as an example of the inclusion of granite in sandstone. On the same small creek that presents us that natural section, we find a small cave excavated in the sandstone, whose overhanging and side walls are of this sandstone, in their regular, quiet, horizontal position, whilst the floor is of the red granite, but rent through and broken by two large, distinct, but irregular veins of trap. The contrast between the greenstone and red granite, gives a distinct outline of these veins, and shows the included masses of granite, reft entirely from the adjacent rock, in an interesting position for examination and study. Running the eye along these lines of fracture to the point of junction of the greenstone, granite, and sandstone, in the posterior part of the cave, we see that the two forms terminate on the same horizontal level, and that on them indifferently the sandstone lies in its quiet, unbroken, stratified condition.

Instead of finding these primitive rocks always rising in elevated ridges above the more recent formations of the country, it sometimes happens, from the effects of the denuding agencies that have been at work since the deposition of the latter, that we pass without a perceptible change of level, from a ridge of granite or porphyry to one of cherty, or feldspathic rock, both performing the same office of a water shed to the adjacent valleys. Again, even in the valleys and plains, we often pass at a single step from a floor of porphyry to one of limestone or sandstone, the two lying distinct beneath us in juxtaposition, without the slightest evidence of the former having been disturbed by want of quietude, or altered by increase of temperature on the part of the latter, since they assumed their present contiguity.

Innumerable examples of a like character could be referred to, as showing, beyond a doubt, that these primitive mountains and ridges existed before the deposition of the first sedimentary rocks

of the State, although these latter have an antiquity as great as probably any other of the Palæozoic series, in this or any other country. These examples show, indeed, not only that these primitive formations existed anterior to the earliest sedimentary deposit, but that they were subject to great and serious disturbance before the deposition of the latter.

This being the case, have we not here in Missouri another one of those nuclei, or great centers for the origin of organic and inorganic forms of subsequent geological periods? and it is this point which I would particularly insist upon always being kept in view, in studying the extinct fauna of this region, particularly of the earlier Palæozoic period. We do not know, and never can know, all the differences tending to affect animal and vegetable existence —for doubtless the latter, as well as the former, may have occurred in these remote periods. That all primitive—really primitive—rocks, as they generally exhibit a strong similarity, should be followed by others that also bear to each other a strong similitude, in their organic and inorganic forms, is what we should readily expect and admit. But as these primitive nuclei are not identical, or exactly the same in all their characters, every where, but on the contrary, sometimes differ very greatly, if we suppose them to have contributed, as we know they did very largely, to the inorganic materials of the formations next succeeding, we must expect these latter to exhibit a corresponding difference in their characters. This, then, is one element that would have tended to affect vital existence at the earliest Palæozoic period, and stamp beings coeval in existence with a diversity of form. To this may be added a possible difference in the temperature of the adjacent ocean or sea, its saline contents, the gaseous evolution passing through it from a yet scarcely chemically quiescent globe, and a host of other agencies, all differing more or less at each one of the local centers of existence, and all known and appreciated by that POWER which was to plant each being in that spot which his omniscience told him was adapted to its existence, its wants, and its future development.

Why, then, should we expect forms that remain of the earliest fauna of Russia, of England, or even New York, to be exactly the same as those we have or may expect to find in Missouri? If we differ from them in lithological characters and stratigraphical relationship, is it not reasonable to suppose that we shall differ also in our palæontological remains? But though such differences may, and probably will, be found, we have no idea that it will affect the great principles of geology; on the contrary, by adding new facts, it will only tend to lay more broadly and solidly the foundation of this, the greatest and most useful of all the modern sciences.

My friend, Dr. Engelmann, has given me some interesting information in relation to the primitive region of the adjacent State of Arkansas, which he explored some years ago. It is extremely

probable that we shall find here another center of inorganic and organic forms, that may give us new subjects for study and assimilation with those of other regions. Texas, too, seems to promise us another point in the chain of subterrestrial mountains, whose now solidified ocean entombs the differing forms that once enlivened the same period.

In the midst of this primitive formation we find the largest and most valuable deposits. The relationship which they bear to each other is not yet satisfactorily made out. The Iron Mountain, which is an irregular ridge, rising about two hundred feet above the level of the adjacent valleys, and covering an area of about five hundred acres of land, is entirely specular oxide of iron, of the purest quality, at least on the surface, and extending from the top of the mountain to within a few feet of the level of the valley. In the excavations made on the south-west face of this hill, or mountain, for the furnaces since erected here, stratified beds of a silicious rock were exposed, dipping slightly toward the valley. This rock contained feldspathic crystals, and may have been a modified granite, as that rock makes its appearance in contact with the iron ore on another side of the mountain. But it may also be a metamorphosed sandstone, as this rock is found in some of the valleys, not very distant. About on a level with the tops of the furnaces, or say fifty feet above the level of the base of the mountain, the mining has been pushed into the hill side broadly, and for some distance, exposing a deposit of iron ore in the form of pebbles, or broken masses, of various sizes, up to that of a foot in diameter, closely impacted together, and the interstices filled with a reddish brown clay. This bed, in its thickest point yet opened, is probably twenty feet, evidently increasing toward the mass of the mountain. On the top of the mountain, the iron ore lies in large masses, with surfaces several square yards in area. But within, the solid mass of the mountain is a mystery; whether it is a dyke or vein of ore, projected up through the solid granite and sandstone previously existing, or whether it be a cotemporaneous deposit with one (and which one) of these, are questions to be solved.

The Pilot Knob, another of our large Iron Mountains, lies about five miles south of the one just described. Mineralogically it is of the same character, but differs somewhat in the physical aspect of its ore. But unlike the Iron Mountain, it appears to be associated with porphyry, and passes often by insensible gradations into that rock. The Pilot Knob covers about the same area as the Iron Mountain, has its base at about the same level, but rises probably two hundred feet higher. Its summit is covered with immense masses of solid ore, whose rugged summits overtopping those of almost all the adjacent hills and ridges, became to the hunters and earlier explorers of this country, a noted land mark, in directing them through this then little known region. The name which it thence obtained it still retains, and the mind can scarcely realize

the time, when the wants or cupidity of man, will be able to level these peaks to a condition in which they will no longer enjoy this distinctive appellation.

These two immense masses of iron ore seem to have become so familiar to the public, that a vague impression appears to be gaining ground, that they constitute all or nearly all of this mineral, of any value, in the State. This is far from being the fact. We have referred to the deposits of it in the oldest Magnesian Limestone, in which it is found generally as hydrated peroxide, almost everywhere. Innumerable other deposits of the specular oxide, some but little inferior in apparent extent to the Iron Mountain and Pilot Knob, are met with throughout the primitive formations, and when the spirit of improvement shall have made them accessible, they will cause this portion of Missouri to become one of the greatest iron-producing districts in the world.

The formations of Missouri appear to have suffered but slight disturbance since their deposition. But, for the facility with which most of them seem to yield to atmospheric and aqueous agencies, by which deep valleys and high bluffs have been formed, much difficulty would attend these geological investigations. The strata lie one upon another with quiet regularity, and no break or uplift marks the period of the commencement or end of any of the divisions. It is only in a few places that we find them sufficiently inclined to forbid the supposition of their deposition at this angle. But when we take a general view of the country, we see beyond a doubt that some dynamic cause has thrown it into undulations, and that these undulations have operated alike upon all the formations, and that consequently it must have been posterior to the most recent or Carboniferous period.* The direction of the uplifted mass appears to be nearly north and south; and it is a striking coincidence that most of the *regular* veins or mineral lodes have about the same direction, rarely differing from it more than ten or fifteen degrees. The greatest amount of this disturbance appears to have been between the Mississippi river and the primitive mountains, and probably included the latter in its action. Although the undulations or wave-like appearance of the ridges seem to be generally north and south, we are not sure that the direction of the force was not at a right angle, or nearly so, to them: that is, east or west. But this is a subject which requires for itself a considerable discussion, and perhaps a more careful and extended examination of the country; we shall not, therefore, trespass upon the attention that has already been so kindly extended to us, by proceeding further in it.

* In these general remarks, I do not embrace the Greensand or Cretaceous formation of the southern part of the State, nor the alluvial or diluvial deposits; nor, of course, the comparatively recent disturbances to which the former have been subject.

ARTICLE III.

Agricultural and Mechanical Society of Boone County, Mo.

We acknowledge our obligations to the "Boone county Agricultural and Mechanical Society," for selecting our Journal as a medium of publishing its proceedings. We commend the following address, written by Professor Swallow, to the consideration, not only of the farmers but also to the Legislature of Missouri.

"Agriculture and the Mechanic Arts are the basis of civilization," and the degree of intelligence and prosperity of every community are indicated by the condition of these two great branches of industry. No country can be permanently prosperous without combining science with the details of agriculture. Ignorance makes labor a burden and a curse, and brings barrenness, and finally desolation upon the land. We hold it to be an *individual and national sin* to neglect the improvement of the soil, and in our estimation that man stands convicted of a flagrant transgression against the laws of Deity who, through indolence or from a desire to increase his individual wealth, exhausts the land of its fertile properties, and leaves it to posterity in a worse condition than he found it.

Let the teachers of religion look to this. For we hold that the subject is embraced among the duties of their mission, and they must account for the manner in which they perform it. Let the Legislator look to it also, for if he neglects an interest so vital to the permanent prosperity of his constituents, he should be regarded as unworthy of the high trust which he assumes.

We commend the citizens of Boone county for their late demonstration in favor of agricultural and mechanical improvement. It affords evidence, that the seat of learning for the State is beginning to exert a beneficial influence. We sincerely hope, that the "Agricultural and Mechanical Society" will not, like many we have known, neglect the high duties it has assumed, and dissolve after a few feeble efforts at improvement, but persevere in the great and good cause they have undertaken, until they shall have established a better system of agriculture, and placed the mechanic arts on a better footing throughout the State.—*Editors.*

ADDRESS TO THE PEOPLE OF MISSOURI.

(From the Mo. Statesman.)

Fellow Citizens:—To you who have with us a common interest in all that can promote our success and secure the prosperity of our professions, we appeal for your sympathy, for your aid and co-operation, in our efforts to place the Agricultural and Mechanical arts of Missouri in that pre-eminence they so richly deserve. While the practical deductions of science have given a new impulse, infused new life and energy into almost every department of human industry, we are cultivating our farms as did our sires and grand-sires before us. While by the application of science Watt and Fulton have given us steamships to spurn the winds and stem the rolling currents of our mighty rivers—while the steam-horse is puffing his way along the iron track to our rich prairies—while the lightning speeds to us the last changes in stocks and merchandize, and every move upon the political chess-board—while, in short, progress is stamped upon everything, the farmer and the mechanic are plodding on "in the good old way of our fathers." The result is we, in this land of mighty forests, are importing and paying three prices for our lumber. Our houses, plank roads, and fences cost twice their usual prices. We go east for our agricultural and mechanical implements of every grade, from the plough to the butter-stamp. With iron mountains and inexhaustible coal beds, we import every article of iron, from the anvil to the ten-penny nail. Our mineral veins contain nearly every paint from the costly smalt blue to the yellow ochre; and yet all we use, with a single exception, comes from a foreign market. While we are exhausting the virgin wealth of the richest soil the sun shines upon, our crops are no better than those harvested from the once barren hills of New England; and inferior races of stock crop our luxuriant prairies.

But you may say "we are doing very well as we are." Perhaps "we are doing well enough;" yet, if we listen to that syren song, we may be aroused from our pleasant dreams to the humiliating reality, that our neighbors with fewer natural advantages are reaping richer harvests and supplying our markets with their domestic manufactures.

While our mothers were doing *well enough* with the distaff and hand-loom, and paying six bits for cottons, the factory girl with the power-loom supplied the same article for one tenth the price. While our fathers were doing *well enough* shut up between the Atlantic and the Alleghanies, the restless energy of that daring spirit, whose name our country bears, crossed those mountains, penetrated these boundless forests, and opened the vast resources of this mighty valley. While the planters of Virginia were doing *well enough*, many of them were surprised to find their soils exhausted and their plantations unproductive. Many are doing *well enough* with mule wagons and mud roads, but the steam horse with his iron sinews proclaims their thriftless folly. While the jolly flat-boatman was doing *almost too well*, the steam whistle startled him from his lazy jollity, and gave a tenfold energy to the commerce of our western rivers. When perfection is reached, then, and not till then, will it be safe to "let well enough alone."

The divine economy wisely provides that we shall eat our bread by

the sweat of the brow; yet no divine or human wisdom demands that we shall toil and sweat, and sweat and toil on from year to year, simply for the corn-cake and bacon our appetites demand. We believe we can do better—that we can become better farmers and better mechanics; and like true Anglo Saxons we repudiate the idea that anything is *well enough* which can be bettered.

We therefore unfurl the banners of our professions also inscribed with the glorious motto: PROGRESS.

In our effort we ask the sympathy and aid of every profession. We do not ask others to labor for our benefit only, but for theirs also. We are the great heart of the body politic; if its pulsations are languid, the life blood will flow feebly in every department of human industry. We do not ask it as a favor, we demand it as a debt of long standing, one so just that all have frankly confessed the obligation whenever and wherever its claims have been presented.

Since man was driven from Eden we have fed and clothed the world; we have built its dwellings, and filled them with plenty and luxury; we have raised the mettlesome steed, constructed the iron horse, and launched the merchantman and the steam ship upon the trackless ocean; we have been freely taxed for the support of public schools, and have contributed liberally for the endowment of colleges and universities, for the education of physicians and clergymen, lawyers and gentlemen; and yet we look in vain for a school where the science of Agriculture is practically taught.

This we contend is wrong; and, as the guardians of our children's inheritance, as the lovers of our common country, we have resolved to do our duty in remedying the evil, that we, who have so freely aided others, will make one manly effort to aid ourselves. Since our charities have not commenced at home, let them at least cheer our own firesides in their round of visitations.

We propose to accomplish the following objects:

1st. To improve our stock of Domestic Animals.

That better stock can be obtained than what we now possess no one will doubt; and that good animals are more profitable than poor ones is equally evident. It costs but little more to raise a horse worth two hundred dollars than it does one worth half that sum. A cow that milks twenty quarts eats but little more than one which milks only ten. And the same principle holds good respecting every class of animals from the noble horse to the farm-yard fowl. Here, then, by a little outlay and a generous co-operation we can greatly increase the pleasure and income derived from our domestic animals.

2d. To introduce the best varieties of our staple crops.

Farmers often cultivate an inferior variety, when a little effort would provide such seed as would secure a better crop without any additional labor or expense of cultivation. All such increase would be net profit; and, though it amounts to only a few dimes per acre, it would yield no mean sum if continued through an ordinary life.

Again, it is a law of all vegetables improved by cultivation, whether grain, roots or fruit, that they degenerate by a constant cultivation in the same locality; but that a change of culture or of locality will often improve them in both quality and quantity. Hence sound reason dic-

tates a judicious introduction of new varieties or the same from some distant locality, or one different in soil or culture.

3d. To introduce improved Agricultural and mechanical implements.

If one man with a threshing or a planing machine can do better and more work than five, it will need no argument to prove the advantages to be derived from the introduction of those implements together with the reaping machine and steam saw-mill with its gang saws.

4th. To introduce improved modes of culture.

We will mention a simple illustration only from the many which might be adduced. An excess of rain often retards the operations of the farmer much to his own inconvenience and the detriment of his crops; while a scarcity of wet often proves equally destructive to the products of the field. But a judicious system of sub-soiling and ditching are efficient antidotes to both an excess and a dearth of rain may well be called the agricultural paradox; and yet both philosophy and experience amply sustain the proposition. They are also most efficient means of promoting and sustaining the productive energies of the soil.

5th. To introduce new staples for cultivation.

The expenses of transportation greatly reduce the profits of our farms. This evil would be obviated by the culture of such staples as would find a market nearer, or such as would be less in weight and bulk, thus decreasing the cost of exportation. Indigo and opium would meet both of these conditions. The home consumption of them is not small; and the product of an acre would weigh a few pounds only and its transportation to a domestic or foreign market would be at least ninety-nine per cent. less than that of corn or wheat. If, in Europe, these staples are more profitable than corn at five dollars per barrel, they most certainly would be with us, where corn is so much cheaper, and the climate and the poorest soils are as well adapted to their culture.

6th. To introduce such a system of culture as will prevent that exhaustion of the soil which has proved so disastrous in some of the older States.

Some in their mad zeal have declared this exhaustion of soil a peculiar result of slave labor. But, until they prove the sweat of the African less fertilizing than that of the Caucasian, we will seek the causes in the modes of culture, and apply the remedies indicated by agricultural science.

7th. To induce our State to provide a school or an adjunct to some school where our sons may be thoroughly and practically taught all those sciences which pertain to the agricultural and mechanical arts.

It may be said, we have good schools now. This is true; and it is doubtless true that the branches provided for are as well taught as their means will permit, and that they answer all the purposes of the learned professions. But something should be done for our professions. We wish them so educated that they can bring all the treasures of science to the improvements of the farm and the workshop.

Our sons are taught to trace the root of a word up through the French, Italian, Latin, Greek and Sanscrit, to discover its true meaning. But who of them can trace the root of a potato beneath the soil

and discover the food it seeks there? They can discourse learnedly upon the *feet* and *cesuras* of the Greek Hexameter, and sing "Lityre tu patu" with all the sweet elegance of a Virgil, but they have scarcely dreamed that fixed laws govern the developments of animal and vegetable structure. They are left in stupid ignorance of the glorious miracles of the organic world—the life-giving flow of the sap, and the development of leaf, flower and fruit—the pulsations of the life-blood, and the telegraphic connection of the mind, nerve and muscle. They can measure the height of a lunar mountain and decompose the nebulae of the milky-way; yet their science would be at fault in removing a mole-hill, or in compounding a cement to pave a footpath. They are carefully taught all the rules which govern the acquisition of wealth; yet they might live and die on the richest mineral beds as ignorant of their presence and value as the bears of California.

Such a state of things is wrong. We contend that the Natural Sciences, those practical deductions of all the experience of preceding generations, can be so taught as to benefit our professions more than any others. Farmers and mechanics have lived as long, have had as much experience, and have made as many useful discoveries as lawyers and physicians; and the results of their experience embodied in the natural sciences can be made as accessible to the pupil as the principles of law or medicine. The experience of Archimedes and Cincinnatus is as valuable to us as that of Lycurgus and Æsculapius to those learned professions; Liebig and Cuvier have done as much for the agricultural and mechanical arts as Blackstone and Hunter for law and medicine.

We therefore ask for the adoption of such measures as will enable our sons to obtain a practical knowledge of all those sciences which pertain to agriculture, mechanics and mining. We seek the adoption of no Utopian theory, no doubtful experiment. The matter has been tested and the results have proven most beneficial to the heads and pockets of those interested. That scientific agriculture can make the desert bloom like a garden has been too often demonstrated by experiment to need support at this late day. Many an acre once barren on the sandy shores of Maryland and Long Island, and among the stony hills of New England annually yields its rich harvests, a golden tribute to science. Lavoisier, the distinguished French chemist, was among the first to apply his science to agriculture. His experiments were made upon his own domain of four hundred acres; and on the second year the products of his estate were doubled, and the profits quadrupled. That and similar results produced a general movement in favor of scientific agriculture. Nearly all the governments of Europe established Agricultural schools, whose beneficial effects have been so obvious that they have been increased in number and facilities truly surprising. France has seventy-five Agricultural colleges and schools, Russia sixty-eight, Belgium one hundred, and all the States of Europe about four hundred.

The kingdom of Prussia, like Missouri, is essentially an agricultural and mining State. It has a system of public schools so general, so thorough, and so practical in its applications to the business of life, as to command the admiration of all enlightened nations. Among the schools of this system there are six agricultural colleges, ten agricul-

tural schools of an inferior grade, seven devoted to flax culture alone, two to the management of meadow lands, one to sheep culture, and forty-five model farms for educational purposes. These schools, and particularly the six first, are provided with every means of education, and their professors are among the first scientific men in Germany.—Such are the means, in all seventy-one establishments, provided by the government of Prussia for an agricultural education. So much has been done by a monarchy not twice as large as Missouri, with a population of only fifteen millions. And yet proud America, with her vast domain, and boasted education, has not a single agricultural school worthy of the name. That the effects of this vast outlay have been beneficial to Europe we may well judge from the facts, that new schools are now being built on the most liberal bases, that Prussia has been changed from the most barren to one of the most fertile States of the world, and that the agricultural products of Europe have been doubled under its happy influences.

If the Emperor of Russia for one only of his sixty-eight agricultural schools can profitably appropriate three thousand acres of land, build upon it forty college buildings, and annually educate several thousand students—if France can spend six hundred thousand dollars per annum for instruction in only three of her schools—if Prussia can with profit invest so many millions in agricultural schools, cannot Missouri invest a few thousand with equal chances of success? There is scarcely a doubt that a small sum judiciously expended in developing and publishing the agricultural and mineral resources of our State would be repaid a thousand fold by the consequent increase of population and wealth.

It may be said that these comparisons disparage the merits of our prosperous land; yet a healthy national pride would lead us to place our industrial arts, not merely in a position equal to those of other countries, but in one commensurate with our superior advantages. Egypt has a fame as imperishable as the pyramids; and yet the proudest page of her history is that which proclaims her *the granary of the world.* When America gave the world a telegraph, when her mechanics and sculptors bore away the prizes of a World's Fair, when her steamships surpassed all competition, and her clippers command the commerce of India and the Queen of the ocean, those are proud days in her history. Yet the era most cherished in the American heart is that which opened our full storehouses to feed the starving millions of that far off fatherland. But there is a brighter future before us. When the sturdy mechanic and the hardy yeoman shall be prepared to appropriate all the principles and discoveries of science to their peculiar arts—when science shall have wooed and won the industrial arts, and they shall have spent their honey-moon in the busy mart and the blooming field—then, and not till then, shall happy America realize her high destiny.

G. C. SWALLOW,
PRICE R. PARKS, E. C. DAVIS,
JNO. MACHIR, T. M. ALLEN.

Proceedings of the Agricultural and Mechanical Society.

Pursuant to notice an adjourned meeting was held in the Court House, in Columbia, Boone county, Mo., on Saturday, June 5th, for the purpose of organizing an Agricultural and Mechanical Society. Maj. JAMES S. ROLLINS acted as President; WM. F. SWITZLER as Secretary.

Wm F. Switzler, from the committee appointed at a previous meeting and charged with said duty, reported a Constitution and By-laws for the government of the Society, which, after being read, was adopted, and will hereafter be published.

Mr. Abbott, editor of the St. Louis "Valley Farmer," being present was called upon to address the meeting. Coming forward he was introduced by the President, and proceeded to deliver a highly interesting and able address, appropriate to the occasion.

Prof. Swallow, from a committee to prepare an address to the people, reported. (See the foregoing address.)

The following resolutions were also reported by Prof. Swallow from the committee on the address, which, on motion of A. W. Turner, Esq., were adopted:

1. *Resolved*, That we invite the citizens of Missouri to join us in petitioning the Legislature for "material aid" in carrying out the object specified in our address.

2. That a committee of six be appointed to draw up a form for petitions, to distribute them through the State, and to advocate our cause before the committee of the Legislature, to which such petitions may be referred.

The President announced the following committee in pursuance of the second resolution, viz: Warren Woodson, James McConathy, Robt. S. Barr, A. W. Turner, T. M. Allen, S. A. Young. On motion of Mr. Jenkins, James S. Rollins was added to the committee.

On motion of Mr. J. A. Boulton, a committee of three was appointed by the President to contract for the printing of the Constitution and By-laws in pamphlet form. Committee—J. A. Boulton, N. W. Wilson, Alfred C. Wilson.

The meeting, on motion of Mr. Jenkins, proceeded to elect officers of the Society, whereupon the following were chosen:

JAMES S. ROLLINS, President; THEODORICK JENKINS, JOHN H. FIELD, Vicepresidents; N. W. WILSON, Treasurer; E. C. DAVIS, Rec. Secretary; WM. F. SWITZLER, Cor. Secretary.

Directors—A. W. Turner, D. H. Hickman, John Machir, A. O. Forshey, A. C. Wilson, J. H. McNeill, J. A. Boulton, M. G. Singleton, Geo. W. Gordon, T. M. Allen.

On motion of Col. Young, it was

Resolved, That the thanks of the meeting are due, and are hereby tendered to Mr. E. Abbott, editor of the St. Louis "Valley Farmer," for his able and instructive address to them on to-day; and

that the Secretary be instructed to request him to furnish a copy of it for publication.

On motion of W. F. Switzler, it was

Resolved, That the proceedings of this meeting, including the Constitution and By-laws, and address to the people of the State, be published in the "Statesman and Sentinel," and that the editors of the "Valley Farmer," "Western Journal," and other papers in the State be requested to copy.

Adjourned to first Tuesday in August.

J. S. ROLLINS, Pres't.

W. F. SWITZLER, Sec'y.

ARTICLE IV.

(From the American Railroad Journal.)

Are we Building too many Railroads?

Are we building too many railroad? or, in other words, are we going, with the enterprizes which we have under weigh, beyond the wants, and ability of the country to complete, and to supply to them a profitable traffic? This is a matter of fact, rather than argument. We have in some States a large extent of railroads; in others, with equal resources, population and wealth, presenting equal facilities for their construction, none. The proper way, therefore, is to apply the results already obtained, to such States where there are no railroads, or but a very limited extent of line.

Take Massachusetts, for example, as this State is generally pointed to, as furnishing the best illustration of what railroads have achieved in the United States. This State has an area of about 7,500 square miles. A population in 1850 of 1,000,000, or 134 to the square mile. It has 1,250 miles of railroad, or one mile to every six square miles. These roads have, in round numbers, cost $60,000,000, and pay on an average six per cent. *net* upon their entire cost.

The influence of these roads upon the growth of the State in population, in wealth, in manufacturing and commercial greatness, has been most astonishing. A majority of these roads have been brought into operation since 1844. The following table will show the increased valuation of the State of Massachusetts and the city of Boston for the period:

Valuation of the city of Boston in	1840,	$94,000,000
" " "	1845,	135,000,000
" " "	1850,	180,000,000
State valuation of Massachusetts,	1840,	299,000,000
" " "	1850,	590,000,000
Increase		291,000,000

No. of miles of road in the State in 1840,..... 318
" " " 1845,..... 628
" " " 1850,.....1130

The State of Massachusetts, though better supplied with railroads than any other in the Union, presents the greatest obstacles to their construction, in the rugged features of the country, and in the obdurate character of its soil and rock formations. The average cost of all the roads in the State slightly exceeds $50,000 to the mile, which is much greater than the cost of those af any other State. In everything but in the character of her people, she will compare unfavorably with every State in the Union, possessing the most sterile soil, the most disagreeable climate, and entirely wanting in mineral wealth, and with very slight agricultural resources. If, with all these disadvantages, she has constructed one mile of railroad to every six square miles, at a cost of $50,000 per mile, and derives a good return from them at that rate, why may not other States push these works to an equal extent, with the same success?

The same ratio that we find in Massachusetts, applied to our whole territory where railroads are in progress, would give us more than 161,000 miles of railroads, against 24,000 miles, which is not far from the extent of line in operation and progress at the present time. It would give to the State of Ohio nearly 7,000 miles, where there are not one half of this number either in operation, in progress, or contemplated. It would give to Illinois 11,000 miles, and nearly the same amount to Virginia. Neither of these States have more than 1,600 miles in operation and progress. It should be borne in mind, that as good roads can be built in Ohio for $20,000 or $25,000 per mile, and in Illinois for $15,000 per mile, as can in Massachusetts for $50,000. There is this reason, therefore, why the States named should have a much greater extent of railroad in proportion to their area.

If the investment in railroads in Massachusetts has proved a good one, there is no reason why an equal investment should not effect the same result in Ohio, with the exception of the fact, that the former has a larger population to the square mile. As an offset to this, it may be stated that a given number of people in Ohio furnish a much larger amount of business to a railaoad than an equal number in Massachusetts, a large portion of the population of which consists of laborers in the large towns. In natural resources, and in extent of production in proportion to population, the two States cannot be compared for an instant, so vastly superior is the former. This fact is strikingly confirmed by the comparative experience of the operations of the roads of the two States. The receipts upon the roads of the former in proportion to their cost, are nearly double those of Massachusetts, and there can be no doubt that the construction of roads in Ohio will continue till she has a larger number of miles of railroad, in proportion to her

area, than Massachusetts. A much greater necessity exists for them in the former than the latter. They can be constructed at one half their cost, and must soon do an equal business, not upon cost, but upon their mileage.

There are in progress and operation in Ohio not far from 2500 miles of railroad. There are something over 1,000 miles in operation, and by the 1st of January next there will be 1,600 miles in operation. Now the present market value of this investment is at least ten per cent. above what it has cost the holders of their securities. When we speak of their market value, we mean the prices that would be paid by our most timid and conservative capitalists, who express the greatest fears that we may be going too far. The roads in Ohio that are completed, or on the eve of going into operation, are by all parties pronounced to be of the first class. It is the *new* projects of that, and other States, that create the distrust.

We can see no reason why the State of Ohio should not in time, and in fact as soon as they can be reasonably constructed, have a proportionate number of miles of railroad, compared with Massachusetts. Neither do we see any reason why the western States of Michigan, Indiana, Illinois, Wisconsin, Iowa, and Missouri, should not have the same number of miles of railroad, their areas compared, as Ohio. They are equally well adapted to these works, and the same necessity exists for their construction, in the former as in the latter. The only element wanting to secure a similar result, is *time*, which will supply population, and develope their resources to an equal extent. There is no reason why railroads should not keep pace with the progress of the States in population and wealth, nor why, when they have reached the present position of Ohio, they should not boast an equal number of miles of railroad. To effect this result, will require a much larger extent of line to be placed under contract than is now in progress.

The area of the States above named is equal to 400,000 square miles. To supply these with railroads, to the same extent that we now find in Ohio, including those in progress, would require 26,000 miles of road. The same ratio that we find in Massachusetts, would require more than 65,000 miles. Now no one acquainted with the resources and wants of the southwestern States, and the character of their people, can doubt that in time an equal area will call for an equal extent of line, and that the construction of these roads will proceed with equal pace with their population.

Let us take another illustration, which perhaps will be still more striking and satisfactory. Take the case of Georgia. This State has now not far from 1,000 miles of railroad in operation, and has become rich and populous through their influence. She is looked upon at the south as the model *Railroad State;* as having set the example worthy to be copied by all her neighbors. Her roads have been built by her own means. She has borrowed little or nothing

from abroad. Her works have been economically built and well managed, and pay large dividends. No one pretends that Georgia has gone too far with her roads, nor that her people have been impoverished or embarrassed by building them; on the contrary, it is universally admitted that not only those who have built and own the roads, but the whole community are vastly better off for them. The prosperity of Georgia is a bye-word with all her sister States.

Now the States of North Carolina, Alabama, Mississippi, Louisiana, Tennessee, and Kentucky, will all compare favorably with Georgia in population, in wealth, in extent, and in natural resources. Railroads are just as much needed by the former as by the latter. They would cost no more per mile. They would pay equally well, and would accomplish as much in improving the condition of their people. But the aggregate length of line of all these States is not equal to the extent of railroad which we find in Georgia. Here then is a field where at least five thousand miles of railroad are admitted to be needed by the most conservative, for no one can doubt that railroads in the States named will be equally as useful and productive as those of Georgia.

But even Georgia is poorly supplied with railroad facilities. Not one half of her territory, and hardly one half of her population are within reach of them. A very large proportion of her products are wagoned, or sent down her rivers at great expense, to inconvenient markets. Her area is at least eight times greater than that of Massachusetts. The latter State has one mile of a railroad to every six square miles of territory. The same ratio would give to Georgia 9,000 miles of railroad, nearly equal to the whole extent of lines in the United States, and to the States named, including Georgia, (embracing an area of 390,000 square miles) more than 65,000 miles of railroad!! Now although there are a few unproductive railroads in Massachusetts, the whole investment has proved to be a good one, yielding a net income of over six per cent., and is constantly improving. There can be no doubt, that in the States named, ten thousand miles of railroad are needed to meet the commercial wants of the people, and that this extent of road would find lucrative employment. It is equally true that this extent of line can mainly be built with their domestic means, and not only those whose money would go into the roads, but the whole community, would be vastly better off for the outlay.

That all our railroads which we are now building are not needed to meet the commercial wants of our people, and will not on the average find immediate and profitable employment, no person acquainted with our country and its resources, and productions can for a moment doubt.

Having shown conclusively, as we believe we have, that we are not building railroads in advance of the wants of the country no more than will find constant and profitable employment, the last question to be considered is, whether we are going beyond our

means, and investing in railroads the money that is needed in the ordinary channels of business, and consequently, whether there is any danger of embarrassment or loss to the community from this cause.

The answer to this question, in our opinion, depends mainly upon the one just disposed of. If it can be shewn that our roads will pay an average of seven per cent., there can be no danger from an over-investment in them. Seven per cent. on long loans is a very high rate of interest, and a perfect security of this kind will always command *par* in any state of the market. A security that will command, under all circumstances, its par value, is never a burden upon the market. No person is embarrassed by holding it, because it stands for all the offices of *money*. Our undoubted securities, too, have an exportable value, and a foreign demand is, and will continue, to take them off from our hands, so long as they continue to pay the present rates of interest. Capital is not restrained by the boundaries of a State or nation, but flows wherever attracted by the prospect of the best return. For our best known railroad securities, the foreign demand already exceeds the supply, and were the condition of our companies, and the entire safety of most of the loans effected by a vast majority of our roads, fully understood by foreign capitalists, the demand created would continue to exceed the amount that will ever be offered to the public. In discussing this subject, we are thus thrown back upon the great question above suggested: will our roads pay? We propose, in our present number, to enlarge still further upon this point.

The railroads that we are now constructing will not, an an average, cost more than $20,000 per mile. We have either completed, or have yrovided the means for all of our expensive lines of roads. The only works of this last class in progress, are the Pennsylvania, and Baltimore and Ohio roads. The great mass of our new roads are in the south and west, where the cost of construction is very slight, and where, at the same time, there is but a small amount of accumulated capital. They run through agricultural sections, where all the means of the people are needed to make the necessary improvements upon their farms. These portions of the country are vastly productive, but their products are to a great extent unavailable for want of an outlet to market, to secure which is the object of the roads to be built. If, therefore, the people interested in a road prepare it for the iron and equipment, they have to a certain extent exhausted their means available for the work, a considerable portion of which never existed in the shape of money. If they have *money*, they can better afford to hire the small amount necessary for the rails and rolling stock, than to part with means absolutely essential to the improvements which they wish to make. When in the construction of a road, therefore, they have brought it to a point that offers a perfect security to the capital necessary to complete it, they then prefer to

go into the market for such capital, in preference to using their own.

The above statements explain briefly, but clearly, we think, why our new works come so universally into the market for money, and why the sums sought to be borrowed for different roads are so uniform in amounts. They are generally equal to the amount required for the iron and equipment, which cost all the way from $5,000 to $10,000 per mile. Experience in the operation of our roads has clearly proved, that a road bed prepared for the above articles, is sufficient security for a sum equal to their cost. The mode of providing means for our roads is now reduced to a *system*, as detailed above.

As a considerable portion of the means expended for the grading, bridging, etc., of our roads was never converted into *money*, its expenditure exerts but little or no influence in the circles of the ordinary business of the country. The farmer puts into the road what he has in *kind*. He is immediately repaid manifold, by the appreciation of every article of property he possesses. The road is equivalent to a market, which he lacked before, and at once stamps a *commercial value* upon everything he possesses. Any agricultural community in the United States, that can, with their own means, secure the construction of a low cost railroad, can well afford to lose what they are usually called upon to contribute, and be vastly better off for the sacrifice, and in fact possess a greater amount of *available* property the moment the road is opened. In discussing, therefore, the effect that the expenditures for our railroads are to have upon the business of the country, we may lay out of account at least one half of their apparent cost, for reasons above stated.

We are probably building 3,000 miles of railroad per year, and shall continue to do so for an indefinite period. These roads will require us to borrow on an average, say $10,000 per mile upon the length of their lines, or a yearly sum of $30,000,000 in the aggregate. The questions are: will this expenditure injuriously effect our other industrial interests, or is it a greater sum than will find profitable employment in our roads?

The ordinary rate of interest upon our loans is 7 per cent. This upon $10,000, gives $700 per mile as the necessary net earnings of our roads, to meet the interest on their loans.

Below we give a table of the nearly gross and net earnings of the same class as those that are now coming into market for money.

	Total earnings as per last report	Net do.	Per mile.
*Cleveland and Columbus.....	$341,680 96	$230,969 28	$1,710
Little Miami	487,815 89	297,457 57	3,541
Columbus and Xenia.....	211,631 37	150,055 58	2,778
Michigan Central.....	1100,043 00	461,364 80	2,116
Madison and Indianapolis.....	386,078 80	185,080 60	2,378

We select the above, because being all new roads they are exactly in point, and afford the best and most correct illustration of the point we wish to make. We think that this table will convince any person who reads this article, that our new roads *can* earn an amount ample to meet the interest on their bonds, and we also believe that he will be made readily to understand how the people on the line of a railroad can afford to lose one half the cost of a road in securing its construction, and at the same time be vastly benefitted by the operation.

We require thirty millions yearly for our roads in progress; certainly not a large sum for a nation like ourselves to invest annually in works which not only promise to pay well, but which develope the resources of the country to an extraordinary degree. There cannot be a doubt that the *cash* value of the property of the country has been increased by an amount 500 per cent. greater than the whole investment. Without railroads, we are a country without markets. Vast bodies of the finest lands in the world, and lying in the States east of the Mississippi, still remain a wilderness, for want of an outlet for their appropriate products. A railroad, by furnishing an outlet, is equivalent to a market at all seasons of the year. They therefore exert a direct influence in the creation of wealth, and that, too, to a much greater extent than their cost; and there never were more absurd and groundless fears, than that our railroads, even at the rate we are now building them, are calculated to embarrass us, or to produce a financial crisis. They are our greatest safeguards against the state of things most feared, as they enable us at a comparatively slight cost, to avail ourselves of our vast resources which now lie dormant for the want of means to make them available. The more roads we build, the stronger and steadier we become, the more abundant our cash capital, the cheaper all the necessaries of life. When our present schemes shall be accomplished, and every portion of the country connected by these iron bonds, the effect upon the prosperity of the country will be incalculable. We shall then become fused into one people, enjoying practically one climate and one soil. A person in the interior of the Mississippi basin will then be able to spread daily upon his table the products of every variety of soil and climate, the fruits of the tropics and of high northern latitudes.

* For six months only.

The vicissitudes of climate which, though they may cause a dearth in one portion of the country, yet secure an abundant aggregate in the whole, will cease to be felt, so that our railroads will not only make us an united and homogeneous people, but will secure to each section the aggregate advantages enjoyed by the whole.

It is very generally supposed that our eastern States, where are found the great majority of our railroads, contain a much larger population to the square mile than the southern and western States. Such is not the fact, as will be seen by the following table of the area and number of inhabitants of a number of States taken from the different divisions named.

States.	No. of square miles.	No. of inhabitants per square mile.
Vermont	10,309	30
New Hampshire	9,380	34
Pennsylvania	46,000	50
Virginia	61,352	23
Georgia	58,000	15
Alabama	50,722	15
Kentucky	37,680	26
Ohio	39,964	50
Indiana	33,809	29
Illinois	55,405	15

Of the above, Vermont, New Hampshire and Pennsylvania are eastern, Virginia, Georgia and Alabama, southern, and Kentucky, Ohio and Indiana, western States. It will be seen that in density of population Ohio and Pennsylvania are equal, and that Vermont, New Hampshire and Indiana are nearly so. One reason of this equality is found in the fact that in the eastern States is found a large quantity of waste land, while in the western States there is comparatively none.

Believing that the bonds of nearly all our roads offer perfectly safe investments for capital, and that they will acquire such reputation among capitalists in Europe as well as in the United States, we have no fears that the large demand created by the great number of works in progress, will be attended with any injurious results, in withdrawing too much of our capital from our other industrial pursuits. We admit that we can only make the most rapid and satisfactory progress when the wants of all our great interests are equally supplied. They should all move forward with equal pace. But considering that we draw only some thirty millions from our cash means for our roads, and the vast addition to the property of the country that every new road creates, this is certainly not a large sum for yearly investment in railroads, by a nation of at least twenty-six millions of people. Our annual accumulations of capital must be five or six fold greater. Great Britain, with a

population about equal to our own, and which are not half so well and profitably employed, wastes eighty millions upon her army and navy alone! The total annual appropriations for the support of that government, (to say nothing of church and poor rates, and thousands of other charges upon property not known with us) average two hundred and fifty millions! against thirty-five millions for that of the United States: or, adding fifteen millions for the expenses of our State governments, fifty millions in the aggregate. Capital is abundant and every department of industry is well supplied, and we see no way in which we can so well dispose of our surplus capital as to invest it in our public works.

ARTICLE V.

St. Louis and New Orleans Railroad.—TOPOGRAPHY OF THE ROUTE, ETC.

The following communication from a distinguished citizen of South Missouri removes one objection which has been raised against the practicability of constructing a railway from St. Louis to Helena, Arkansas: namely, the supposed existence, by some, of an impassable swamp extending from the St. Francois to Black river. We find another interesting fact in the statement that Wayne county is not less abundant in iron than St. Francois, which embraces the Iron Mountain and Pilot Knob. The views of our correspondent in respect to the importance of converting the ores of South Missouri into a commercial form, by which they will be the means of enriching the State, and building up the city of St. Louis, are just and statesman-like, and commend themselves to the citizens of every part of the State.—*Editors.*

Dear sir:—I take the earliest leisure to answer your communication of the 31st ult. It was not to be expected that general or correct information could be had of the country situated, for some distance, up the St. Francois and Big Black rivers; the surveys have been precluded by the extensive Lakes and swamps, formed by the overflow of those rivers and their tributaries, and the country has never until very recently been explored (and then but partially), with a view to its improvement. It has only been visited in the winter season by hunters and trappers, in the pursuit of game, or by graziers to winter their stock on the rich growth of cane and rushes that abound on the dry lands of that region. In-

deed, so wild and unfrequented is the country, that among the large islands in those lakes and swamps the Buffaloe and Elk are yet to be found, and it is often profitable to the trapper in taking beaver.

I have from personal observation but a limited knowledge of the country between this point and Helena, extending only from the table lands at the sources of St. Francois and Black rivers, to a short distance below Greenville, in Wayne county. It is on those table lands that the beautiful settlements of Bellevieu and Arcadia are made, and between them the Iron Mountain and Pilot Knob rear their iron heads; and with full confidence I can speak of the entire practicability of constructing a railroad from hence to a point below Greenville, on or near the southern line of the State, on a route more direct, and of lower grade than can be obtained for the same distance in south-eastern Missouri, certainly more so, than from St. Louis to the Iron Mountain. Although the descent from this elevated portion of country is about the same to Greenville as to St. Louis, the descent is easier and more direct to the former. The elevation above St. Louis, taken at the base of the Iron Mountain by Maj. Morell, in his survey made in 1837, was found to be 800 feet. In ascending from St. Louis, the very meandering course of Big river, with its numerous tributaries running from almost every point of the compass, will occasion the crossing of several dividing ridges, which must greatly enhance the cost of construction. But I am happy to learn a corps of engineers are now on the line, making a recognizance for a railroad from St. Louis to the neighbourhood of the Mountain and Knob, which will give you more certain and accurate information. To descend southwardly from the Iron Mountain to Greenville, two routes present themselves by streams which take their rise almost at the base of the Pilot Knob. The more western, by Bruer's creek I think, would be preferred, because more direct, and would save bridging the St. Francois. The eastern route would penetrate more deeply into the heart of Madison county, approaching near Mine la Motte, but is more circuitous, and would occasion the construction of two bridges across the St. Francois. There is a point below Greenville, on the west side of the St. Francois, you are forced to, in constructing a railroad from St. Louis south, with a view to connect with the Holly Spring railroad in Mississippi. A connection with Memphis is impracticable, by reason of the extensive lakes and swamps on the lower St. Francois, *which never can be reclaimed.* The point I alluded to is a narrow neck of land below Greenville, between the St. Francis and Big Black, it is low but not a swamp, having a slough across it, through which, in times of very high floods, the water of the St. Francois passes into Black river. Immediately beyond this, as I learn from good authority, Crowley's ridge rises and forms the divide between the swamps and lower small tributaries of those two rivers, continuing its course in a di-

rection to the neighbourhood of Helena, in Arkansas. Having some acquaintances in that region of our State in whom I can place the most implicit confidence, and who are familiar with the profile of the country between the lower St. Francois and Black rivers, I will address them on the subject, and forward their communications when received.

There is no portion of our State more interesting, and yet so little known, as the section to which this subject refers, none in my mind more interesting to the prosperity of St. Louis—she feels and is proud of her commanding commercial position, but to maintain it against the numerous rivals that are being created by the magnificent projects of internal improvements which are now going forward east, and south and north of her, she must exert herself, and secure a system of manufactures, one of which it is now in her power to make exclusively her own, by the construction of the railroad you advocate, and thus become the Birmingham of the vast valley of the Mississippi.

The line of railroad you have suggested, would traverse more than one hundred miles of the richest iron deposits on the Globe, (from the Merrimac to the swamps); scarce one section of land can be passed without finding on it deposits of iron ore, and in many localities in astonishing quantities. Notwithstanding the vast amount of iron ore found in the Mountain and Knob, I am of opinion, Wayne county contains more iron ore than any county in the State, and perhaps nearly as much water power; yet it is useless, and the lands of that county valueless, even at government price, except in a very few localities, because she is cut off from an easy and direct access to the Mississippi, by the swamps extending from Cape Girardeau to the mouth of the St. Francois.

In this elevated region we have no coal formations, it is mostly primitive, yet we have abundance of timber, and only want a cheap and ready transportation to the Mississippi, to enable us to rival all others in the manufacture of iron. That we can make as good iron as any produced on the globe, and under a correct system of management cheaper than can be furnished in any State of this Union, is easily demonstrated. St. Louis, situated as she is, in the heart of extensive coal fields, should contain the finishing shops of our iron manufacture, and the numerous structures from it, that have become necessary to man, for his convenience, security, and pleasure. Why is it that Pittsburgh, and other cities on the Ohio, can afford to pay us an *extra-price* for our pig metal and blooms, and after paying all costs of transportation and incidental expenses, return it to us in a finished state, selling it with a profit? Pittsburgh, like St. Louis, has naturally a strong commercial position, and has only been able to maintain it by calling to her aid the great coal fields at her door, in building up her iron and other manufactures, thus making herself a point of convenience and attraction to the merchant and trader. Your city

should look to this example, and thus maintain her preeminence as the commercial city of the great West. The vast importance of the road you advocate, in a commercial point of view, must be readily seen by the enterprising men of St. Louis. It is surprising that New Orleans and Southern Mississippi should have slept so long, dreaming in the security of their commercial position, while Tennessee, Alabama, Georgia, and South Carolina were spreading their network of railroads to rob her of her trade. It is well, if it is not too late, your projection is the only one to save them any respectable part. The coalition has been strengthened by the addition of Illinois, Kentucky, and Western Tennessee. Memphis, Cairo, and Paducah are great connecting points, and will fight hard against any railroad improvements, connecting St. Louis with a point on the Mississippi below them.

It will give me great pleasure to furnish any further information in my possession, or be the medium of procuring it for you from others, to enable you to publish a fair representation of the project you have been advocating, and which I venture to hope, may ultimately succeed in obtaining the confidence and support of those cities so deeply interested.

With great respect *

ARTICLE VI.

Interest Law of Missouri.

The principles involved in all laws limiting the rate of interest have been so frequently and fully discussed in this and other countries, that it is scarcely possible for the most ingenious mind to suggest an argument touching the subject that has not been advanced and often reiterated. And, therefore, we shall not attempt to examine the history of usury, nor discuss the reasons which induced Despots and Law-givers of less enlightened ages to limit the price which one individual should pay another for the use of money. All intelligent minds, we believe, admit that there is no moral turpitude in receiving a fair market price for the use of this essential agent of labor and commerce, and no reasonable man can insist upon retaining a law upon our statute book, which prohibits him and other citizens of the state from disposing of their property at its full market value. And yet we have a Statute that forbids the people of Missouri to receive more than six

per cent interest; when no fact is better known than that the market price of money on bond and mortgage has ruled at from ten to twelve and a half per cent. per annum, ever since this law has been in existence—a period of more than five years.

The attempt to repeal this law having failed at the last session of the legislature, we cannot, consistently with our sense of duty, allow the approaching general election to pass without bringing the subject to the minds of our readers. Wrong in principle, the general tendency of its operations is necessarily opposed to the convenience and prosperity of the community at large. We know not, what evils of the former interest law of Missouri the present statutary provision was designed to remedy, but we do trust, that the evils which result from the existing law will not escape the observation of the next General Assembly.

Every individual who possesses sufficient intelligence to be a legislator, knows that a large portion of the money used in commerce, and even in manufactures, is the property of capitalists, who are not engaged in trade or productive pursuits. But very few of this class reside in Missouri, and consequently the high rate of interest, which our citizens pay, goes to increase the wealth of the great commercial cities. If, by fixing the rate of interest at six per cent. per annum, we could compel them to loan us their money at that rate, there would be some semblance of reason in the law. But like the merchant, the money dealer must be paid for transferring his property to distant points. He must pay commissions to agents, and charge something for the risk incident to carrying on his business through others who are beyond the reach of his daily observation; and hence, when money can be loaned on bond and mortgage at from four to five per cent. in New York, but little would be sent to Missouri to be invested at six per cent. Consequently the present law of Missouri operates in the nature of a prohibitory measure against the introduction of money. Neither will the local capitalist loan at the legal rate; and, in as much as he must be indemnified for the risk of evading the law, he is able to make his own terms. All intelligent men admit that the six per cent law has occasioned the rate of interest to range from three to five per cent. higher than it would have been under the old law.

When it is so evident that the ostensible object of the law has been defeated, and that the evils which were designed to be reme-

died have been augmented, we cannot account for the obstinacy with which one branch of the legislature resisted its repeal at the last session of the General Assembly.

But the scarcity and high price of money are not the only evils involved in the operation of this short-sighted measure; its moral effects are even more to be deprecated. It accustoms the citizen to evade the laws, and while it lessens his respect for the institutions under which he lives, he feels degraded from the dignity of a free man by the necessity which urges him to accomplish an object in an indirect way, which, though free from moral turpitude, the law prevents him from obtaining by an open and manly course. Shame upon such legislation! An act that violates a vital principle of commerce; that restrains it in the performance of its great mission of civilizing the human family; that retards the growth of manufactures, and diminishes the profits of labor; that offers a *premium* to the grinding money lender, while it restrains the conscientious citizens from receiving the just value of his property, or degrades him in his own estimation, should be expunged as a foul blotch from the statute book of a free and enlightened people. We respectfully invoke the people of Missouri, and more especially those who may be honored with a seat in the next General Assembly, to suspend, for a season, their political strife, and agree in the spirit of patriotism to discuss and act on this and other subjects, upon which the pecuniary prosperity and social condition of the State depend.

Having discussed this subject more at large at page 142, vol. IV, of the Western Journal, our principal object at the present time is to remind our readers that the reasons which we then urged against the Interest law of Missouri, still remain in full force, and that we have observed nothing in its operations calculated to change the opinion which we then expressed in respect to its injurious effects upon the prosperity of our people.

To those who are not yet convinced of the propriety of repealing the present law, we commend an able and well digested article from the pen of Hon. R. W. Wells of Missouri, published in vol. V, page 288, of the Western Journal; and unless they are obstinately resolved to cherish and abide by this relic of barbarism, we think they will agree with the author of that article, that it should be expunged from our statute book.

ARTICLE VII.

(From Hunt's Merchants' Magazine.)

Of the Increased and Increasing Supplies of Gold.

The following article on the increased supplies of gold from California and Australia, is condensed from a late number of the "London Athenæum." Although many of the "facts and figures" it contains have already appeared in former numbers of the "Merchants' Magazine, their repetition in this place is necessary for the purpose of elucidating the conclusions of the writer in the "Athenæum."

"The estimates of the values of the quantity of gold and silver existing in Europe and America, at the commencement of the year 1848, are taken from the work of M. Chevalier, on money, published in 1850.

No supplies had been received from California till late in 1848. The total stock of gold and silver in the year 1500, when America was discovered, is computed at £40,000,000 sterling, of which the amount of gold was only £12,000,000. This sum, compared with the large amount received from the mines of America, subsequent to 1500, accounts for the great revolution in the value of gold, which took place soon after the voyage of Columbus.

In 1848, however, there was a large accumulation of gold and silver in the world, on which the new and large supplies could operate but slowly in any alteration of value, compared with the immediate effect produced in the value of money at the time of the discovery and first working of the South American mines.

In 1848, there was a mass of £1,727,000,000 sterling of both metals.

Estimate of the value of the quantity of gold and silver existing in various forms in Europe and America at the commencement of the year 1848.

	Silver.	Gold.
America,	£1,087,000,000	£401,000,000
Europe,	90,000,000	25,000,000
Russia,	13,000,000	44,000,000
Africa and other places,		100,000,000
Total	£1,180,000,000	£570,000,000
As existing A. D. 1500	28,000,000	12,000,000
Total	£1,208,000,000	£582,000,000
Add silver		1,208,000,000
Total pounds sterling		£1,790,000,000
Deduct for exportation, wear and tear, and losses by casualties		64,000,000
Leaving		£1,726,000,000

A third part of this was gold. And if we suppose, as we have reason to believe, that the new produce yielded by the sources of supply in California and Australia will amount annually to £20,000,000 sterl ng, or $100,000,000, a few years will lead to an important alteration in the present exchangeable value of gold. The new supply would then be at the annual increase of $3\frac{3}{4}$ per cent. on the stock existing in 1848. In 1850 and in 1851 the increase was actually at the rate of 2 to $2\frac{1}{2}$ per cent. on the stock of gold in 1848.

The annual supply of the precious metals in 1800 and 1848 is stated as follows:

Estimated value of the annual quantities of gold and silver placed in the markets of the world at the commencement of the nineteenth century—say in the year 1800:

	Silver.	Gold.
America	£7,000,000	£1,920,000
Europe, excl. Russia, but incl. Turkey	560,000	140,000
Russia	200,000	88,000
Africa	.....	280,000
Archipelago of Asia	.....	650,000
Divers other sources	80,000	180,000
Total	£7,840,000	£3,258,000
Silver	.....	7,840,000
Total gold and silver	.....	£11,098,000

Estimated value of the annual quantities of gold and silver placed in the markets of the world immediately before the discovery of the Californian mines, or say in the early part of 1848.

	Silver.	Gold.
America	£6,200,000	£2,100,000
Europe, exclud. Russia, but incl. Turkey	1,320,000	360,000
Russia	210,000	4,100,000
Africa	.....	550,000
Asia, excluding Russia and Turkey	900,000	2,800,000
Total	£8,630,000	£9,910,000
Silver	.....	8,630,000
Total gold and silver	.....	£18,540,000

Comparing these two statements, the results are as follows:

YEAR 1848 COMPARED WITH 1800.

	Silver.		*Gold.*	
	Less.	More.	Less.	More.
America	£800,000			£180,000
Europe		£760,000		240,000
Russia		10,000		4,012,000
Africa				270,000
Asia, &c		820,000		1,970,000
Total	£800,000	£1,590,000		£6,672,000
Less		800,000		
More		£790,000		£6,672,000

Comparing the two periods in the most general manner, we find that the annual supply had increased in forty-eight years thus:—

Gold in 1800	£3,260,000	
Gold in 1848	9,910,000	
Increase		£6,650,000
Silver in 1800	£7,840,000	
Silver in 1848	8,630,000	
Increase		£790,000

The greater increase in the annual supply of gold than in that of silver before 1848, arose almost wholly from the Russian supplies. These supplies had proceeded at the rate of about £4,000,000 a year for about ten years prior to 1848; so that, generally, for nearly ten years prior to the discovery of California, the annual supplies of gold had been far greater in proportion than the annual supplies of silver.

The produce of California, up to the end of 1851, has been fully £30,000,000 sterling, or $150,000,000; of which £14,000,000 sterling was obtained in 1851.

The produce of Australia, to the end of 1851, during six months only, was not less than £500,000 sterling, and most likely £1,000,000 sterling.

The disposal of all this produce becomes the important and interesting question.

Statement from official sources of the value of the coinage of gold, the produce of the United States territory, at the four mints of the United States, (Philadelphia, New Orleans, Charlotte, and Dahlonega,) during the years as under.

	From California.	Other sources	Total.
1848	£9,000	£170,000	£179,000
1849	1,230,000	185,000	1,415,000
1850	7,255,000	133,000	7,388,000
1851	10,540,000	86,000	10,626,000
	£19,034,000	£574,000	£19,608,000
From the establishm. of the oldest of the mints in '92 to the end of '47, 55 y'rs		2,561,000	2,561,100
Total		£3,135,000	£22,169,000

Statement from official sources of the value of the coinage of gold and silver at Paris during the years under.

	Silver.	Gold.	Total.
1849	£7,360,000	£1,090,000	£8,450,000
1850	3,000,000	4,600,000	7,600,000
1851	2,270,000	9,640,000	11,910,000
Total	£12,630,000	£15,330,000	£27,960,000

NOTE. It is important to bear in mind that the £15,330,000 of gold coinage shown above was not derived wholly from new supplies of gold, but was obtained to a considerable extent by the conversion into coin of a part of the gold bullion previously existing in the markets of Europe, and especially in France. The published accounts do not enable us to state precisely what portion of the £15,330,000 was old and what new gold bullion; but perhaps more than half or even three-fourth was old.

The general effect of the evidence furnished by these two tables is as follows:

In the United States there has been actually coined and added to the circulation of that country since 1848 ..... gold	£19,000,000
In France there has been a similar coinage of.....	15,000,000
Making together.....	34,000,000
Deduct for French gold coin obtained from old stock of bullion already in Europe prior to 1848, say	10,000,000
	24,000,000
California supply.....	39,000,000
Surplus added to floating stock in market.....	6,000,000

Judging from the present amount (£20,000,000) of bullion in the Bank of England it is probable that these figures are not very far from the truth.

The amount of metallic money in France has, for the last two hundred years, been enormous. Paper money never took root there. In 1843, the amount, as estimated by M. Leon Faucher, was thus:—

Gold coin	£14,000,000 stg.
Silver coin	120,000,000
Total	£134,000,000

Both metals are legal tender in France, as in the United States. Until 1850, silver was the cheaper metal, and therefore silver was mostly sent to the French mint to be coined, and gold coin was withdrawn from circulation as soon as issued. Since 1850, this state of things disappeared. The agio on gold ceased; and in and from 1851, gold has been at a discount in Paris, compared with silver. This gave rise to the enormous increase in the gold coinage of France, or, in other words, gold became the cheaper metal. Gold will take the place of silver, independently of any aid from government, while the existing mint regulations are continued. It is so in the United States, where, since the act of Congress in 1834, gold has been overvalued as compared with silver, and hence the strong tendency to introduce gold into the currency, in place of silver. The conclusion drawn from these facts is this:

That so long as the process, which has been going on so extensively since 1849, in the United States and France, of introducing a gold coinage in replacement of silver continues, the effect will be to lessen very much the effect of the new supplies, both (1) upon the relative values of gold and silver, and (2) upon the general state ef trade and prices.

And this position is readily illustrated. For, if instead of £24,000,000 stg. of gold having been absorbed for coin (out of £30,000,000 produced) since 1848, leaving only £6,000,000 of gold to operate by way of positive addition to the previous stock of that metal, the whole £30,000,000 had been left so to operate, it is tolerably plain that the effects would have been much more serious and startling than any which have hitherto been observed.

We may, perhaps, reckon with certainty on the continuance of the present absorption of gold as coin, at the rate of £20,000,000 a year, for some time to come; but then no change must take place in the mint legislation of the countries at present having a double standard.

It is stated, on good authority, that Australia will supply this year £10,000,000 stg.: and California £15,000,000 stg

The immediate effect of this supply, caused by its accumulation at the fountain-head of circulation, the commercial capitals of the world, is to lower the rate of interest until the bulk of it be taken thoroughly into the circulation of the world, displacing other currency—silver and paper.

The increased amount of gold will greatly stimulate production,

which, in the opinion of practical men of eminence and ability, will at first lower the prices of commodities, notwithstanding the large supplies of gold, before they can be rendered higher, which can only be the result of a very large demand and consumption, which will, however, ensue. Where there is a large and excessive amount of floating capital, the tendency is always towards its conversion, more or less gradual, into fixed capital. Any sudden conversion of this kind would change an easy money market into a comparatively tight one."

PRODUCTION OF THE PRECIOUS METALS FROM 1492 TO 1852.

An officer of the United States Treasury Department at Washington, in answer to a semi-official inquiry made at the Department, has presented an elaborate report, estimating the production of the precious metals from 1492 to 1852. The writer, after an examination of the standard authors upon the subject, Humboldt, McCulloch, and Jacobs, estimates the total product of the world, exclusive of Australia, as follows:—

America, exclusive of the Uniced States		$6,877,833,800
California, received at Mint	$98,408,000	
California, foreign exports, manufactured, etc	51,592,000	
Other United States gold at Mint	15,855,000	
Ditto not brought to Mint	1,145,000	
Total United States		167,000,000
Total America		$7,044,833,800
Europe and Asia, exclusive of Russia		1,755,000,000
Russia		213,581,000
Total production, 1492 to 1852		$9,013,414,800

The present annual product of the precious metals, the writer estimates as follows:

All South America	$30,710,000
Add for any probable increase, according to the best authorities	3,290,000
Hungary, Saxony, and Northern Asia	4,000,000
Russia, at the highest estimate of late years	20,000,000
Africa and South Asia (a rough estimate)	1,000,000
Carolina, Georgia, etc.	500,000
California	64,500,000
Total	$124,000,000

The compiler of the estimate remarks:—"It is not clearly expressed by any of the authorities quoted, whether the amounts of the precious metals stated to have been produced at different pe-

riods, applies to the amount coined or to the entire production, but the inference is strongly in favor of the latter.

The limited production of gold and silver in the last years of the fifteenth century, may be very naturally accounted for in the limited number of people who at first ventured to explore the New World, and in the scarcity of those metals in the lands first occupied by Columbus; but it will, perhaps, excite surprise to find that the first deposits of California gold in the mints of the United States, in the year 1851, exceed the highest annual production of gold and silver in Mexico and South America by nearly 40 per cent.

COMMERCIAL STATISTICS.

BANK OF MISSOURI.

Annexed, is the condition of the Bank of the State of Missouri and branches on the 30th June, 1852:

Aggregate Condition of the Bank of the State of Missouri and its Branches on the 30th June, 1852.

DR.

Bills discounted	$1,718,815 98
Exchange matured	231,322 68
Exchange maturing	695,120 36
Real Estate	128,106 15
Loan to State of Missouri	1,408 83
Bills receivable	54,231 90
James L. D. Morrison, agent	50,449 43
Suspended debt	148,443 50
do. abstraction of the funds now in suit	120,961 63
Due from Banks	98,894 17
Certificates Banks of Illinois	25,285 00
Bonds State Bank Illinois	7,500 00
Bank notes on hand	441,950 00
Warrants on State Treasurer Mo	32,044 43
Specie on hand	1,143,456 26
	$4,870,990 38

CR.

Capital stock owned by the State	$954,205 22		
Capital stock owned by individuals	255,976 26	$1,210,131	48
Due depositors		1,064,267	74
Dividends unpaid		1,844	30
Interest and exchange	239,642 02		
Less expenses	$19,571 05		
Less Protest account	126 25	19,697 30	217,944 72
Contingent fund		194,823	35
Circulation		2,060,620	00
Due to Bank		113,308	79
		$4,870,990	38

In some of the leading features, we have contrasted its condition, as given in the report of 31st December last.

Condition of the Bank of Missouri and Branches, in some of its leading items, on 31st December, 1851, and 30th June, 1852.

LIABILITIES.

Deposits 31st December, 1851	$1,065,950		
June 30, 1852	1,064,267	Decrease	$ 1,683
Circulation December 1851	2,084,840		
June 1852	2,066,620	Decrease	14,220
Exchange and interest Dec. 1851.	259,060		
June 1852	219,944	Decrease	30,116
Contingent December 1851	171,305		
June, 1852	194,843	Increase	23,508

ASSETS.

Bills discounted December, 1851	$1,971,567		
June, 1852	1,718,815	Decrease	198,752
Exchange December, 1851	1,016,925		
June, 1852	926,442	Decrease	90,483
Coin December, 1851	1,163,884		
June, 1852	1,143,456	Decrease	20,428

It will be seen that the only material change has been in the bills discounted, and even this change is small.

The *deposits* only vary $1600 in an aggregate of more than a million.

The *immediate* liabilities and available means of the bank may be summed up, in round numbers, as follows:

LIABILITIES.

Deposits	$1,064,000	
Unpaid dividends	1,800	
Circulation	2,066,000	
Due to Banks	113,000	$3,213,800

ASSETS.

Coin	$1,143,000	
Exchange	926,000	
Due from Banks	98,000—	2,167,000

At a meeting of the Board on Monday last, a dividend was declared, for the past six months, of *six* per cent., and a due portion passed to the credit of the contingent fund besides.

Foreign Commerce of Ports in the U. S. Compared.

The following statement, showing the amounts of revenue from customs, collected at forty-three of the principal ports of the U. S., from the 1st of July, 1851, to the 31st of March, 1852, and the comparison with that of the corresponding period of the preceding year, is interesting, as exhibiting the comparative foreign Commerce of the principal ports of entry in the United States. It will be observed that there is a decrease in the ports of New York and Boston, and a slight increase in those of Philadelphia, Baltimore, and New Orleans. The greatest proportionate increase is in San Francisco. The inland ports generally exhibit a very large increase.

	1850-51.	1851-52.		1850-51.	1851-52.
New York	$24,375,912	$22,121,112	Sandusky	$19,913	$33,580
Boston	4,924,400	4,711,112	Eastport	18,305	14,163
Philadelphia	2,830,899	2,890,043	Gloucester, Mass.	17,244	14,085
New Orleans	1,777,682	1,806,471	New Bedford	15,832	16,763
Baltimore	776,389	800,772	Providence	30,849	22,423
Charleston, S. C.	501,387	455,263	Bristol	17,209	11,991
San Francisco	596,931	1,779,945	New London	15,604	7,781
St. Louis	142,406	197,990	Rochester	11,284	9,377
Portland	142,169	180,321	Lewiston	11,595	18,215
Savannah	159,602	113,632	Ogdensburg	12,320	16,878
Salem	117,976	89,429	Detroit	23,545	23,924
Mobile	62,398	90,729	Nashville	10,085	55,844
Alburg, Vt.	57,684	28,422	Pittsburg, Pa	2,177	12,386
Oswego	56,259	59,746	Chicago	4 861	2,168
Buffalo	51,240	78,021	Bath	11,214	6,683
Richmond	55,463	48,901	Wilmington	11,270	19,174
New Haven	49,454	57,722	Cape Vincent	6,144	15,521
Norfolk	45,158	34,853	Newburyport	3,061	12,530
Cleveland	51,578	80,052	Georgetown, D. C.	9,935	13,022
Cincinnati	78,712	87,517	Alexandria, Va	5,724	27,686
Louisville	48,897	41,606	Sackett's Harbor	1,950	12,483
Hillsburg	49,396	48,585			

The Cheese Trade of the United States.

(From the Merchants' Magazine.)

The "Cincinnati Price Current," in accordance with its custom, gives a brief review of the cheese trade for the season of 1851–52, from which we derive the subjoined statements. The following table shows the monthly average price for good merchantable Western Reserve Cheese in the months of each year, from 1848 to 1852:—

	'48-9.	49-50.	50-1.	51-2		'48-9.	49-50.	50-1.	51-2
April.....cts.	8¼	6⅜	6½	6⅞	November	6½	5¾	6½	6½
May	6¼	6½	5¾	6¼	December.....	6½	6	6½	6½
June	6	6	6	6	January.....	6⅜	6¼	6¾	6½
July	5¾	6	6	6⅛	February.....	6	6⅜	7	6¾
August.....	5¾	6⅝	6	6¼	March	6⅛	7½	7½	7
September....	5¾	6¼	6	6¼	Yearly average	6¼	6⅛	6⅓	6
October	6	6⅛	6	6¼					

It is seen the average prices for the past season are better than for either of the three preceding years.

The receipts at the port of Cincinnati during the last five years ending March 31, were, in boxes, as follows:

1847-48.	1848-49.	1849-50.	1850-51	1851-52.
139,878	152,373	124,755	189,494	253,844

Estimating the average weight of boxes at 35 pounds, and the amount received would be as follows in pounds:—

1847–48.	1848–49.	1849–50.	1850–51.	1851–52.
4,895,730	5,333,055	4,466,425	6,632,180	8,884,540

Thus, it is seen, the receipts since 1847–48 have increased very nearly 100 per cent.

With regard to the *future* of this trade, we may say there is every prospect that the increase for years to come will be even more rapid than heretofore, and it is very safe, we think, to predict that in ten years, *i. e.*, in 1861–62, the receipts at this port will be 30,000,000 pounds, which amount is 13,000,000 less than the present yearly receipts at the port of New York.

Cincinnati is the distributing point for a vast extent of territory, where the consumption of cheese is rapidly increasing. The following States are now supplied, in a great measure, from this point; namely, Alabama, Arkansas, Georgia, Indiana, Illinois, Iowa, Kentucky, Louisiana, Mississippi, Missouri, Tennessee and Texas, besides a portion of Ohio. The free population of these States, according to the last census, was about eight millions, leaving twelve millions for the remainder of the United States. Now let us see by whom the cheese is produced. The amount of cheese produced by each State during the year ending June 30, 1850, was as follows:

Maine.....lbs.	2,201,195	Alabama.....lbs.	30,423
New Hampshire.....	3,196,568	Mississippi	20,314
Vermont	6,755,006	Louisiana	1,148
Massachusetts.....	7,124,461	Texas	92,018
Rhode Island.....	296,748	Arkansas	28,440
Connecticut.....	4,513,019	Tennessee	179,577
New York.....49,785,905		Kentucky	228,744
New Jersey.....	500,819	Michigan.....	1,042.551
Pennsylvania.....	2,395,279	Ohio 21,350,478	
Delaware.....	3,187	Indiana	666,986
Maryland....	3,925	Illinois	1,283,858
District of Columbia	none.	Missouri	201,597
Virginia.....	434,850	Iowa	198,444
North Carolina.....	95,043	Wisconsin.....	440,961
South Carolina.....	4,810		
Florida	18,324	Total 35,765,539	
Georgia.....	46,391		
Total .....77,375·527			

Thus, it is seen, the States containing a population of about twelve millions produce over seventy-seven million pounds of cheese annually, while the Western and Southern States, with a free population of eight millions, produce only thirty-five million pounds. Of the former, New York produces forty-nine million, and of the latter, Ohio produces twenty-one million. The Southern States produce a very small quantity in proportion to their population, and as it is not now, nor is not likely to become a profitable business in those States, the consumptive demand must be supplied from Ohio, and hence we may look for a steady increase in the trade at this point. Cincinnati being, as already remarked, the distributing market for the South and West, and as railroads are extended, the area of country supplied from this place will increase. Before many years elapse, North and South Carolina and Georgia will be connected by railroads with Cincinnati, and, indeed, already the merchants of that city are receiving orders from Georgia, the Chattanooga Railroad having connected some portions of that State with the western rivers.

When the statistics of this trade in the United States are fully considered in connection with the facts presented, our prediction that the yearly trade at the port of Cincinnati will in ten years have increased to thirty million pounds, will not be regarded as too large an estimate. This increase would be greatly less than that experienced in New York. The receipts at that port in 1834 were 6,340,000 pounds; in 1844, 29,672,000; and in 1850, 43,097,000.

Tabular statement of the quantity and value of wool imported into the United States from all countries, from July 1st, 1850, to June 30th, 1851, compiled from the Report of the Register of the Treasury of the United States.

	Pounds.	Value.
Russia	331,339	$32,891
Danish West Indies	300	30
Denmark	104,007	11,846
Holland	27,692	3,985
Dutch West Indies	22,012	1,448
Belgium	53,889	7,891
England	4,893,041	862,216
Gibraltar	291,309	38,503
Malta	55,508	6,248
British East Indies	191,911	26,378
Cape of Good Hope	21,147	3,862
British Honduras	7,897	1,230
British Guiana	247	21
British West Indies	20,000	1,637
British American Colonies	50,207	8,948
Canada	570,813	88,970
France on the Atlantic	944,248	114,386
France on the Mediterranean	2,874,119	379,739
Spain on the Atlantic	285,997	30,702
Spain on the Mediterranean	489,162	62,988
Cuba	10	1
Italy	906,565	101,701
Trieste and other Austrian ports	423,552	63,634
Turkey	5,238,292	479,355
Hayti	1,720	189
Mexico	270	21
Venezuela	8,569	514
Brazil	400,844	40,834
Cisplatine Republic	306	29
Argentine Republic	12,106,536	1,328,337
Chili	2,109,846	125,650
Africa generally	117,136	13,973
	32,548,491	$3,883,157

Commerce of San Francisco.

We find the following statement of the Commerce of San Francisco in a letter from J. B. Crocket, Esq., recently published in the St. Louis Intelligencer:

"To give some correct idea of the vast amount of business transacted in this port, and the rapidity with which the trade and population is increasing, I clip from the *Daily Herald* of this morning, the following statement made by Col. Cost, the efficient naval officer of this port."

STATISTICS OF THE PORT.—We are indebted to Mr. Cost, Naval Officer of this port, for the following statistics of this port:

Duties received during the Quarter ending March 31., 1852.

Cash paid duties	$359,827 85
Withdrawals from warehouse for consumption	90,213 65
Total receipts for the quarter	$450,041 50

Arrivals of the Quarter above—Tonnage.

From foreign ports.	January.	February.	March.	Total.
Foreign vessels	6,497	5,501	12,378	24,376
American vessels	7,887	10,831	8,206	26,924
Amer. coastwise vessels	13,561	15,059	9,239	37,859
Total tonnage				89,159

Bullion received for the Quarter.

January	$8,214 00
February	100,000 00
March	448 00
Total	$108,662 00

Number of Passengers arrived during the Quarter.

	Males.	Females.	Children.
January	2572	370	204
February	3493	281	143
March	3864	337	101
	9929	988	448

Total passengers.....11,365

But as a more satisfactory evidence of the extent of the commerce of this city and of the emigration, I have obtained from the Custom House, the following interesting statement of the duties received, the tunnage of the vessels arriving here, and the shipment of bullion from this port in the year 1851:

Abstract of Duties received in 1851.

From January 1st to March 31st	$482,702 08
April 1st to June 30th	626,283 06
July 1st to September 30th	449,080 64
October 1st to December 31st	563,048 30
	$2,121 114 08

Coastwise arrivals from May 1. to Dec. 31. 1851 123,354 tons.

Arrivals from Foreign Ports from April 1. *to Dec.* 31.

Foreign and American	177,338 tuns
Arrival of emigrants from May 1st to Dec. 31st	18,447
Amount of bullion received from June 1. to Dec. 31	$295,000

Amount of Bullion shipped to Foreign Ports from March 4th to December 31*st.*

To Panama	$33,968,991	
To San Juan	518,859	
To Valparaiso	467,543	
To Honolulu	24,000	
To Manila	43,800	
To China	398,206	
To Rio de Janeiro	15,000	— $35,436,399

JOURNAL OF INTERNAL IMPROVEMENT.

Texas Central Railroad.

From the Railroad Journal.

The following circular addressed by Gen. M. Hunt to J. B Williamson, Esq., respecting the project of a railroad from Galveston to or near Preston, on Red river, will be read with interest by those of our patrons who are looking to a railroad connection between St. Louis and Texas, by the way of Springfield, Mo.

The grant made by the State of Texas of eight sections of land to aid in the construction of each mile of road, would seem to be sufficient to insure the construction of the work. Indeed, if the route be as favorable, and the lands as rich as represented, we know of no project which offers such strong temptations to the enterprising capitalist. Should this road be put under contract, it will operate as a powerful inducement to the Pacific Railroad Company to determine on building a branch to Springfield.

Editors.

S. B. Williamson, Esq.,

The charter authorizes the commissioners named in it (of which I am one,) to form and organize the company in person or by proxy; and I have full authority from the other six commissioners, to form said company, and to do all acts and things that they could, would or might do if they were personally present at the doing thereof, to facilitate such organization and arrangements for a speedy construction of the road, which I am now desirous of doing at the earliest practicable period. Gentlemen wishing to communicate with me will please do so as early as convenient, at the Astor House, New York, where I shall be by the 19th inst.

It will be seen by the charter, that the road is to commence on Galveston Bay, or Galveston Island, and that the company formed under it can terminate said road anywhere on the Brazos, Trinity or Red rivers, and construct such branches as they may deem expedient. The point proposed for its terminus is at or near Preston, or Red river, a distance of about four hundred or four hundred and twenty-five miles from Galveston. The route suggested as the best for the road, is for it to commence on the Island of Galveston, and cross the bay at Caroncua Reef, or the Deer Islands, the former of which is about ten miles west of the city of Galveston, and the latter about six miles, thence in a direct line towards the Brazos river, to a point near the southern or lower line of Fort Bend county, thence near and parallel to the Brazos river to a point opposite the great Falls of the Brazos, or Waco Village, a distance of about twenty-five miles above, and thence by Dallas on the Upper Trinity, to or near Preston, on Red river. Galveston Island is situated just above 29° north latitude, and, where it is proposed to establish the road, it will approach to within a few miles of the Brazos river, in about 30½° latitude, at the distance of about thirty miles from the crossing of the bay. The bottoms or alluvial lands of the Brazos river average about three miles in width the whole distance—it is proposed to establish the road parallel to it (about 240 or 250 miles)—and continues in extensive bodies of alluvial or bottom lands for more than one hundred miles above. The road, in ceasing to run near and in a parallel line to the Brazos river, gradually bears off in a line to Dallas, on the Upper Trinity, a distance of about seventy five or eighty miles. From Dallas to Red river, at or near Preston, it is about one hundred miles; making the whole distance from Galveston to or near Preston—according to a map compiled by R. Creuzbaur, Draftsman of the General Land Office of Texas, called De Cordova's map of Texas (the best authority)—four hundred or four hundred and twenty five miles.

The road, after bearing off from the Brazos river at a distance of about two hundred and forty or two hundred and fifty miles from Galveston, passes the residue of the distance—about one hundred and seventy or eighty miles—through *one of the most*

fertile upland territories in the United States. Its terminus on Red river is below 34° latitude, and is very productive in cotton, the whole distance, and affording, in the valley of the Red river, one of the finest wheat regions in the United States. In addition to the uncommonly abundant yield of wheat, I have been credibly informed that wheat grown in that region has weighed as high as seventy pounds to the bushel.

It is impossible to give anything like a correct estimate of the quantities of sugar, molasses, cotton, Indian corn and flour, wool and live stock, that would be immediately transported upon the road after its completion, besides the rice, tobacco, and other articles, (the production of which the soil and climate along the route of the road are adapted) that may be eventually produced.

The valley of the Brazos river and its tributaries alone are capable of producing upwards of a million of bales of cotton above the sugar region, besides the productions of the valleys of the Upper Trinity and Red rivers and their tributaries; and, also, the valley of the Upper Colorado river, the productions of which will doubtless find the Central road the readiest and cheapest transit to the seabord, and to which valley it may be expected a branch road from the Central road will be soon constructed.

The return freights of merchandise and lumber would be commensurate with the agricultural productions from the interior, as also would be the passengers travelling in both directions, besides the immigration to the interior, which would be considerable. There being no growth of pine nor cypress in the immediate vicinity of the line of the road, the population throughout its whole distance will doubtless resort to the transit of it on the road from Galveston, for dwelling houses, furniture, etc., which will add considerably to the income of the road. The transportation of military supplies for the United States army will also afford an item of considerable profit. Preston is, at this time, a large military depot for the supply of the troops in the southwest.

The quantities of sugar and molasses now made on the Lower Brazos are considerable, and their production is rapidly increasing.

The estimate of the yield of cotton in the valley of the Brazos may seem large, but it is greatly below its real producing capabilities of the great staple. For instance: supposing the Brazos bottom and alluvial lands to average three miles in width for three hundred miles, (and this is a low estimate) it would give between one million three hundred thousand and one million four hundred thousand acres. These lands produce from one to two bales of cotton, of five hundred pounds each, to the acre, when properly cultivated; hence, it is manifest that the bottom lands of the Brazos river alone are capable, if it was all in cultivation, of producing from 1,500,000 to 2,000,000 bales, to say nothing of the very extensive and fertile uplands embraced in its valley. Refer-

ence is especially requested to all persons who may have a personal knowledge of the extent of the Brazos bottom lands, and their productiveness in cotton, for the verification of the foregoing statement.

Along the whole distance of 170 or 180 miles, from the Falls of the Brazos river, or from Waco Village, (which is 25 or 30 miles above) by way of Dallas, to Preston, is, as has been previously suggested, if not the very richest upland country in the United States of the same extent, at least, considered to be second to none, and embraces what is considered the best latitude for cotton in the United States.

By reference to De Cordova's map, it will be seen that the road can be constructed the whole distance proposed without its being necessary to cross a dozen streams of water, although it may be to the interest of the company to cross a larger number of very small streams. Of these, the first water course of any importance is the Navisoto, opposite to Washington, which is believed to be less than one hundred feet in width. The next is Big creek, then Richland and Chambers' creeks, all of which are believed to be less than sixty feet in width at the crossings proposed. The last is Trinity river, at or near Dallas, believed not to exceed one hundred and fifty feet in width. From or near Dallas to or near Preston, the whole distance of about 100 miles, with comparatively slight variations, can be traversed without crossing any streams of water.

The topography of the country over which it is proposed to establish the road is believed to be unequalled in advantages, considering that its course is at right angles from the sea. There are a few hills on the line of the proposed road, in the vicinity of the proposed crossings of Richland and Chambers' creeks, and the immediate approaches of Trinity and Red rivers. With these exceptions, very inconsiderable, the face of the country generally is either nearly level, or gently undulating along the whole route of the proposed road.

The level country from Galveston, which continues for 75 or 100 miles, with very slight undulations, is as well adapted, and has as few obstacles to encounter in the construction of the road, as can be found. The grounds are similar to those upon which the city of Galveston is situated; and such is its compactness, in the city of Galveston, after being used for a short time, that it has not been found necessary to pave the streets.

The bay at the Deer Islands is about three and a half miles across. The depth of water varies at ordinary tides from a few inches to about seven feet in depth, and occasional small islands are formed all along across the bay. It is only for a very short distance at the Deer Islands, that the bay is as much as seven feet in depth. The bay at the Caroneua Reef is about the same width, and the water is from a few inches to about five feet in depth in ordinary tides.

Suitable timbers for cross ties and other purposes in constructing the road, can be readily obtained from where the road approaches the Brazos river, (about 30 miles from the bay,) all along up the Brazos river to opposite the Falls and Waco Village.

After the above general remarks, and to avoid being too tedious in this paper, I will briefly sum up some of the superior advantages of this road.

1st. Its commencement is at what is considered the best harbor in the United States west of the mouth of the Mississippi river.

2d. This road must be the main or trunk road for the transit of the most productive and largest portion of the agricultural territory in Texas; and also the medium by which most of the supplies for the army of the United States in the Indian territory, in and contiguous to New Mexico, will be transported, together with all productions and supplies westerly to the Rocky Mountains.

3d. The mildness of the climate will prevent the frosts during winter from damaging the road.

4th. The climate and territory through which the road is proposed to pass are considered superior to any in the United States for health east of it, in the same latitude, and also in fertility for the production of the great staples—cotton and sugar.

5th. The health of the country, the richness of the soil, and the variety of productions, and the facilities of transportation to all the Gulf, Atlantic, and European cities, along this road, will naturally lead to greater emigration from Europe and the States of the Union than any other State or territory.

6th. The first 80 or 100 miles of the road and its fixtures, it is believed, can be made for $10,000 per mile, and the profits on the first hundred miles of the road would yield the first year a large per centage on the investment.

7th. The State of Texas, as will be seen by reference to the charter, has donated eight sections of land, of six hundred and forty acres each, for every mile of road that may be completed, which, for the construction of 400 miles, will entitle the company to 2,048,000 acres, to be located upon any of the unappropriated public lands of the State—and the quantity of unappropriated and vacant lands in the State are estimated from the best sources of information at about 110,000,000 acres.

8th. The donations of lands by the citizens in the interior of the country, near where the road is expected to pass, it is believed, will be comparatively very large, but it is impossible to make any thing like a correct estimate of what they might be. It is very important, however, to secure liberal donations along the line of the road, that the route be speedily surveyed, and public meetings be called, and addresses be made at short intervals of distance to the land owners all along the line of the road. There are many large tracts of land owned by persons who would make very liberal donations at present, but owing to the rapid and increasing immigra-

tion into the country along the whole line of the proposed road, sales are constantly being made in *small tracts* to actual settlers, who, it is believed, would be much less liberal in donations of lands to the road than the original owners. Hence, the very great importance of an immediate organization of the company, the survey of the route, and an active and energetic effort to secure the donations of all the lands it is practicable to obtain, as every month it is delayed the quantities will be considerably lessened.

9th. The absence of the successful competition of any water communications from this extensive interior country with the Texas Central railroad is manifest.

10th. The charter of this road, which is herewith inclosed, is as liberal a one as could be asked for, and speaks for itself.

In addition, all that I have to add is, that you and all others who may read the foregoing statements are requested, if they have any wish to own an interest in the road, to make particular inquiries of all persons who are acquainted in Texas, in reference to the correctness of the statements herein set forth.

I am, very respectfully,
Your obedient servant,

MEMUCAN HUNT.

West Point, June 17, 1852.

Railroad Convention at Little Rock, Arkansas.

The "Arkansas State Gazette and Democrat," of the 9th inst. contains the proceedings of the convention which assembled at Little Rock, on the 5th of the present month. The convention was attended by delegates from Louisiana, Mississippi, and Tennessee, but *none from Missouri.*

The committee on Routes reported in favor of a Central route from the Mississippi, opposite Memphis, to Fulton or some point near that place, on Red river. This is regarded as the great trunk line of improvement for the State: and the work on which the people of Arkansas seem inclined to concentrate their energies, at present. The committee also reported for the consideration of the convention a route from Helena to Fort Smith; a route from Gaines' Landing on the Mississippi, through the town of Camden to Fulton; and noticed the New Orleans and Opelousas Great Western Railroad as a work worthy of encouragement. Among the published proceedings we find the report of Pawhatan Robinson,

Civil engineer, "of an exploration and preliminary reconnoissance of the country between Little Rock and Memphis," in which the cost of building the road is estimated at a fraction over $11,000 per mile.

We copy the following resolution to show the spirit with which the people of Arkansas are about to enter upon a career of public improvement:

"Resolved, That this convention appoint a sufficient number of suitable gentlemen, residing in various sections of this State, whose duty it *shall be*, to canvass this State, and address the people, and urge upon them the importance of building railroads generally, and particularly the proposed Central Railroad from Memphis, Tennessee, to Fulton, on Red river.

Which was read and adopted."

This is going to work in the right way. And we predict that if Albert Pike and others who have been appointed under this resolution devote their talents to the subject, it will not be long before the Central railroad of Arkansas will be put under contract.

New Orleans and St. Louis Railroad.

Captain Pike, of Arkansas, introduced the following resolution:

Resolved, That the thanks of this convention be returned to Col. Buckner H. Payne, for his able and instructive address, and that it assures him and those whom he represents, that it regards the proposed road from St. Louis to New Orleans, Opelousas and Great Western Railroad, as one of incalculable value to the State and people of Arkansas, and calculated in an eminent degree to contribute to the development of her resources and the prosperity of her citizens; and it also assures them, that it does not regard this great enterprise with an indifferent eye; but will aid in carrying it forward, and recommend it cordially to the earnest consideration of the citizens and authorities of Arkansas.

Which was read and unanimously adopted.

Railroad from St. Louis to Terre Haute.

Acting upon the opinion that the charter recently granted by the Illinois Legislature for the construction of a road from Illinoistown to Bellville authorizes the corporation to connect their road with the line from Terre Haute to Springfield, we have been informed that a survey of the route has already been commenced, and is in active progress.

And should the company be permitted to proceed without further legal embarrassments, the work will doubtless be pushed forward with extraordinary energy, and the connection of St. Louis with the Eastern cities by the great Central route may yet be effected before the completion of the road from this point to Cincinnati.

Railroad from St. Louis to Lake Erie.

WABASH VALLEY RAILROAD.—The citizens of Indiana and of the northwestern part of Ohio have, for some time, been agitating the project of a railroad from Lake Erie to St. Louis. At a convention of delegates from Illinois, Indiana and Ohio, recently held at Logansport, a company was formed, and articles of association were adopted for the construction of the road through the State of Indiana. We have great confindence in the enterprise and energy of the people of Indiana, and if the State of Illinois will grant the right of way, we feel persuaded that this important enterprise will be undertaken and completed at an early day. It is decidedly the true policy of Boston and New York as well as of the railroad interest east of Toledo, to connect with the Mississippi at this point, and every reasonable facility will doubtless be afforded for carrying on the work. We copy the following account of the convention from the "American Railroad Journal."

WABASH VALLEY RAILROAD.

RAILROAD MEETING AT LOGANSPORT.—By the Logansport Journal of the 26th inst., we have the proceedings of a convention of delegates from various counties in Illinois, Indiana, and Ohio, convened at Logansport on Wednesday last to take into consideration the construction of a railroad from St. Louis by way of Danville, Illinois, the Wabash and Maumee valleys to Lake Erie. Speeches ware made by Messrs. Pettit, Myers, Wright, Elsworth, Potter, Fithian and Wallace.

Resolutions were passed and articles of association adopted for the regulation of the work.

The "Articles" fix the line between Ohio and Indiana on the east, and between Indiana and Illinois on the west, as points; also the towns of Roanoke, Fort Wayne, Huntingdon, Lagro, Wabashtown, Peru, Logansport, Camden, Delphi, Lafayette, Attica, and Covington.

The capital stock is named at $4,000,000, in $50 shares.

Milwaukee and Mississippi Railroad Company.

This company is organized and acting under a charter granted by the territory of Wisconsin, liberal in its provisions, unlimited as to tolls for freight and passengers, and as to dividends which may be made.

Its road extends from Milwaukee on lake Michigan to the Mississippi river, a distance of about two hundred miles, passing through the village of Waukesha, Palmyra, Whitewater, Milton, Fulton, and Madison, the capital of the State; and from thence striking steamboat navigation at or near Arena, on the Wisconsin river, and from thence following the banks of said river to its confluence with the Mississippi, or turning off to the south through the lead mines, as may hereafter be determined by the board of directors.

The company was duly organized by the election of its first board of directors, on the 10th day of May, 1849, under their act of incorporation, passed February 11, 1847. The authorized capital of the company is three millions of dollars; of which there has been subscribed by citizens of Wisconsin and the city of Milwaukee one million nine thousand and eight hundred dollars, and of which seven hundred and five thousand dollars have been paid in; and the balance is payable in instalments, and will all become due in 1853.

MILES OF ROAD IN OPERATION, AND EARNINGS.

The company have in operation thirty-six and one-half miles of road, fourteen miles more graded and ready for the iron, and the iron purchased sufficient to extend to Rock river, distant from Milwaukee seventy miles. Twenty and a half miles of road from Milwaukee to Waukesha were opened on the 25th day of February, 1851. The net earnings of this short distance, with a plank road running parallel and near it, to Dec. 31, 1851, were $14,514 57. The road was partially opened to Eagle Center, distant from Milwaukee thirty-six and one-half miles, in February last; but, for want of accomodations and facilities for doing business at Eagle, the earnings have been light. Practically, the road has only been opened to Waukesha until May, when the road was graveled up, depot and turn-table erected at Eagle, and the company commenced running two regular trains a day. The earnings for the winter season, from December to May, were light, and the expenses heavy, for causes not likely again to occur. The gross earnings for the month of May last were $3,789 57, showing an increase over the month of May of last year of $2,072 82. The expenses of running for this month have not been reported. The road is now earning about two hundred dollars per day, which will

give for the month of June five thousand dollars and upwards. The road has not yet extended far enough into the country to command the business, and the season has been unfavorable. It was never expected by the board of directors that the earnings of the road would be sufficient to pay the interest upon its cost until it should be opened to Whitewater, thirteen and one-half miles distant from Eagle. At this point there are facilities for doing business, stages will connect with the interior towns, and the road will then command a portion of the business from the rich valley of Rock river. The business of the winter season will always be light in comparison with the spring, summer, and fall. It is so on the Michigan Central, on the Chicago Union railroad, and so we may reasonably expect it will be on this.

COST OF THE ROAD.

The company had expended for all purposes, including machine shops, rolling stock, tools and stock on hand, on the 31st of December last, $675,753 58. Since that time the further sum of $100,000 had been expended, chiefly in the further construction of the road, and for equipments.

The cost of the road when completed to Rock river, 70 miles, including all fixtures and equipments, will be about $18,000 per mile, which includes much the heaviest portion of the line. We are assured that from the Rock river to Wisconsin, a distance of about 60 miles, the road can be built and equipped for about $13,000 per mile, which would make the average cost of the road for the 130 miles about $15,500 per mile. Following down the Wisconsin river to the Mississippi, the route is remarkably favorable; and the cost of construction, including all necessary stock and fixtures, has been estimated at $10,000 per mile. The distance is about 70 miles, on a level and straight valley and a sandy soil. The average cost of the road then, for the whole 200 miles, will not exceed $15,000 per mile.

SALE OF STATE BONDS.

The Pacific Railroad Company received proposals on Saturday, for the purchase of $100,000 worth of State bonds, negotiated for the purpose of constructing the Pacific Railroad. The highest price offered was $106¾, and the lowest $104¼, being from 4¼ to 6¾ per cent. premium. The bonds yield an interest of 6 per cent. The bids were as follows: E. W. Clark & Bro, (in fixed sums) $1 04½ to $1 6½; Jno. J. Anderson, $1 06, and Lucas & Simonds, $1 06¾. $50,000 worth were sold to the last named bidders, but the balance was not disposed of.

St. Louis Intelligencer.

LITERARY DEPARTMENT.

COL. JOHN O'FALLON.

PRESIDENT OF THE OHIO AND MISSISSIPPI RAILROAD COMPANY.

In our May Number we presented our readers with a portrait of the subject of the following sketch, and regretted that it was not in our power to accompany it with the brief account of his life, with which we have since been furnished. We know of no individual among us whose claims to public esteem are more extensive, and rest on a better foundation, whether we have regard to the qualities of a generous and philanthropic character, a long life distinguished by activity and usefulness, or to the energy, munificence, and public spirit which still eminently identify him with the physical and moral progress of the age and community in which he lives.

Col. O'Fallon's father, Dr. James O'Fallon, a native of Connaught, in Ireland, and a lineal descendant of one of the most ancient and renowned Irish families, emigrated to this country in 1774, with the avowed object of participating in the struggle of our fathers for liberty which he foresaw would soon commence. He sailed for Charleston, S. C. But the vessel in which he embarked being wrecked on the coast of North Carolina, he and his companions were landed at Edenton, in the latter State, whence he removed to Wilmington, the seat of the Colonial Government. Very soon after his settlement in Wilmington, he began a vigourous assault through the press on the Colonial Administration, in consequence of which he was arrested for sedition and imprisoned. But so deep a hold had his sentiments taken of the popular mind, that he was forcibly rescued, and carried in triumph through the streets. This marked demonstration of popular aversion to British rule so alarmed the Colonial Governor, that he at once sought refuge on board of a national ship, and never again returned to the soil of North Carolina. The revolutionary struggle had now begun, and Dr. O'Fallon, then in his 26th year, was tendered a commision of captain in the revolutionary army. In this position he very soon won for himself such distinction for skill and gallantry, that he was transferred to the post of Surgeon General at the head-quarters of the army in Philadelphia, with the pay of Brigadier General. His new position at the head of the Medical Department of the army brought him into intimate and confidential relations with General Washington, which were maintained without interruption to the close of the war. His retirement, after this memorable event, from a position which he had occupied so long, and with so much satisfaction to the Government and the Army, was accompanied by a formal tender of the thanks of the Commander in chief, and of Congress. He now settled in Charleston, S. C., but very soon after removed to Jefferson county, Kentucky, where he married Fanny Clark, youngest sister of Gen. George Rogers

Clark, and of the late Gov. William Clark of this State, and the mother of the subject of this sketch. He died in 1793.

Dr. O'Fallon was a man of high order of mind, bold and adventurous in spirit, noble, generous, and humane in sentiment, and added to these rare endowments the most varied liberal and refined accomplishments of learning and manner. This his own manuscripts and the testimony of cotemporaries abundantly demonstrate.

Of the maternal ancestry of our subject we need not speak; as the record of their deeds and characters constitutes too familiar and too brilliant a chapter in western annals, to require notice at our hands. Nor will we stop to offer any apology for this brief reference to the distinguished *ancestry* of the gentleman whose life and character it is our present object to record, since the name and deeds of that ancestry are so honorably identified with the political and martial history of our country—especially of the Great West.

John O'Fallon was born in Jefferson county, Kentucky, near the present city of Louisville, in 1792. His father died when he was but eighteen months old, and, consequently, the education of the son was exclusively the care of his mother.

While a student of Law, in 1811, an event occurred which induced him to enter the Army, and in August of that year, he joined the expedition, commanded by Gen. Harrison, against various bands of Indians headed by Tecumseh, and was severely wounded in the battle of Tippecanoe. He visited St. Louis for the first time in January, 1812, then in his 21st year, and in March following took command of a company in an expedition up the Illinois river, against hostile Indian tribes. Finding, however, that his health was too much impaired by the effect of his wounds received at Tippecanoe, for the performance of active military service, he accepted the offer of one hundred and fifty dollars extra-pay, and the command of two keel boats, containing United States property to be delivered at Pittsburgh. His sojourn of a few months at St. Louis, sufficed to satisfy him, even at that early period, of its superior advantages for successful traffic. He embarked, in command of the U. S. boats, on 1st May, 1812, for Pittsburgh, where he arrived in July, after a very short and successful trip, and found the inhabitants greatly excited by the recent news of the declaration of war against England.

His health continuing feeble, he repaired to the mountains of Virginia, on a visit to his relations residing there.

A salubrious climate, and the relaxation from severe service, which he here enjoyed, very soon effected his restoration to health; and after a sojourn of about two months, he proceeded by way of Kentucky to the headquarters of Gen. Harrison's army in Ohio, to whom he reported himself for duty, being then a Lieutenant in the 1st regiment U. S. Army, and received an appoint-

ment in the family staff of the General. He continued a member of Gen. Harrison's military family until the resignation of the latter, in May, 1814.

At the siege of Fort Meigs, in May, 1813, Col. O'Fallon acted as Deputy Adjutant General, and was engaged on the last day of the siege (12th May,) in two desperate *sorties*, the last against the British batteries: one of the most daring and brilliant achievements of the war. At the great battle of the Thames, he acted as first Aid-de-camp to Gen. Harrison. Subsequently he was appointed to the command of Fort Malden, in Canada, opposite the mouth of Detroit river, which had been wrested from the enemy, and in April 1815, after the treaty of peace was concluded, he delivered that post into the hands of the British.

In the autumn of the same year, after having commanded for a few months the post at Detroit, he was transferred to Fort Mackinaw, and thence, in 1818, to Green Bay, where he spent the winter with Gen. Taylor. In the spring of 1817, he left Green Bay, and crossed over by the Fox and Wisconsin rivers to Prairie du Chien, on the Mississippi, and proceeding down the latter river, arrived at the military post of Bellefontaine, on the Missouri river, and near its mouth, on the 4th of June, 1817. Here he took immediate command of the troops, and performed the duties of Assistant Adjutant General of the military department, then under the command of Gen. Thomas A. Smith, until the fall of that year, when he obtained a furlough for the purpose of visiting Washington to settle accounts of many years' standing with the Government, and to dispose of his property in Ohio and Kentucky, preparatory to his retirement from the Army. About this time, he made his first purchase of real estate at this point, being a tract of land adjoining the then village of St. Louis, and now known as O'Fallon's Addition, and thus laid the foundation of the magnificent estate which he now enjoys as the fruit of his sagacity and energy. Having completed his business at Washington, he resigned his commission in the Army, and was preparing to take up his residence at St. Louis. But the Paymasters' Department being at this time much embarrassed by the default of officers in this branch of the service, Col. O'Fallon, at the request of Mr. Calhoun, then Secretary of War, temporarily assumed the duties of Paymaster at this place, which he continued to perform until the fall of 1819. This temporary employment required him to spend the winters of 1818–19 and 1819–20 at the seat of Government. In the spring of 1820, having satisfactorily discharged the official trusts committed to him by the Secretary of war, he left Washington, and settled himself permanently on the tract of land above referred to. His subsequent career is too familiar to the great body of our readers, to require at our hands a detailed history. Suffice it to say, that from that time to the present he has been a citizen of this community, identified with its interests, sympathizing with its adversities, and foremost in all the schemes of public

enterprize and benevolence designed to meliorate its condition, and to develop and advance its physical and moral greatness. Churches, schools, libraries, asylums and hospitals for the sick, the poor, the desolate, and other afflicted, no less than more interested schemes for the development and diffusion of public and private wealth, have experienced the fostering support of his personal influence and munificence. We could mention instances of property, which he has dedicated to the use of religion, of education and of charity, the present pecuniary value of which would surprise even many of his intimate friends, and would of itself be sufficiently ample in amount to satisfy any reasonable aspirations after wealth. The energy and liberality with which he is now devoting himself to the construction and extension of the great highways of commerce and civilization, which are destined to make St. Louis, at no distant period, a centre of vast wealth and influence, as she is already the geographical centre of a territory unparalleled in extent and resources, evince his just appreciation of the age and land in which his destiny has been cast, and of his relations and responsibilities thereto. The infirmities of years, and the cares of private interests, do not shut out from observation and pervading solicitude the great *public* interests and sublime destinies, which concern his country and his race.

The endowment which he has recently proposed for the erection and maintenance of a University at St. Louis, may be considered, especially in reference to its future value and extent, princely indeed: and we confidently indulge the hope that the realization of this comprehensive scheme of education will, at no distant day, be sending forth its influences of religion and learning, to guide, enlighten, and purify the restless aspirations of the inhabitants of this vast emporium. Such an institution, associated as it will be with the name of its generous founder, must perpetuate in the hearts of the millions who, in the mighty future, will enjoy its light, the memory of his character and deeds. It will be a monument worthy of the loftiest ambition.

We are aware that this public but brief reference to the prominent characteristics and events of the life of Col. O'Fallon may not be in harmony with the retiring disposition and unostentatious habits of that gentleman. But we feel that we are performing a duty which as Journalists we owe to the public, in thus presenting for the approving judgment and imitation of his fellow citizens the character of one whose energies have been chiefly spent among them, and who has done so much to promote the general good. The career of such a man belongs to history. And while he will transmit to his children all the immunities and blessings which ample wealth can confer, he will also bequeath to them the more valuable and imperishable legacy of an untarnished name, and an example which will teach them to realize in the benefaction of their species the legitimate and enobling *uses* of wealth, and the highest object of human ambition.

(From Appleton's Mechanics' Magazine.)

The Poetry of Science.

The True is the Beautiful. Whenever this becomes evident to our senses, its influences are of a soul-elevating character. The beautiful, whether it is perceived in the external forms of matter, associated in the harmonies of light and color, appreciated in the modulations of sweet sounds, or mingled with those influences which are, as the inner life of creation, appealing to the soul through the vesture which covers all things, is the natural theme of the poet, and the chosen study of the philosopher.

But it will be asked, where is the relation between the stern labors of science and the etherial system which constitutes poetry? The fumes of the laboratory, its alkalies and acids, the mechanical appliances of the observatory, its specula and its lenses, do not appear fitted for a place in the painted bowers of the Muses. But from the labors of the chemist in his cell—from the multitudinous observations of the astronomer on his tower—spring truths which the philosopher employs to interpret nature's mysteries, and which give to the soul of the poet those realities to which he aspires in his high imaginings.

Science solicits from the material world, by the persuasion of inductive search, a development of its elementary principles, and of the laws which these obey. Philosophy strives to apply the discovered facts to the great phenomena of being, to deduce large generalities from the fragmentary discoveries of severe induction, and thus to ascend from matter and its properties up to those impulses which stir the whole, floating, as it were, on the confines of sense, and indicating, though dimly, those superior powers which, more nearly related to infinity, mysteriously manifest themselves in the phenomena of mind. Poetry seizes the facts of the one and the theories of the other, unites them by a pleasing thought, which appeals for truth to the most unthinking soul, and leads the reflective intellect to higher and higher exercises; it connects common phenomena with exalted ideas, and, applying its holiest powers, it invests the human mind with the sovereign strength of the True.

Truth is the soul of the poet's thought—truth is the reward of the philosopher's toil; and their works, bearing this official stamp, live among men through all time. Science at present rejoices in her ministry to the requirements of advancing civilization, and is content to receive the reward given to applications which increase the comforts of life, or add to its luxuries. Every improvement in the arts or manufactures has a tendency to elevate the race who are benefitted thereby. But because science is useful in the working days of our week, it is not to be neglected on our Sabbath, when, resting from our labors, it becomes agreeable to contemplate the few truths permitted to our knowledge, and thus ente-

into communion, as closely as is allowed to finite beings, with those influences which involve and interpenetrate the earth, giving to all things life, beauty, and divinity.

The human mind naturally delights in the discovery of truth; and even when perverted by the constant operations of prevailing errors, a glimpse of the Real comes upon it like the smile of daylight to the sorrowing captive of some dark prison. The Psychean labors to try man's soul and exalt it are the search for truth beneath the mysteries which surround creation—to gather amaranths, shining with the hues of heaven, from the plains upon which hang, dark and heavy, the mists of earth. The poet may pay the debt of nature, the philosopher may return to the bosom of our common mother—even their names fade in the passage of time, like planets blotted out of heaven; but the truths they have revealed to man burn on forever with unextinguishable brightness. Truth cannot die; it passes from mind to mind, imparting light in its progress, and constantly renewing its own brightness during its diffusion. The True is the Beautiful, and the truths revealed to the mind render us capable of perceiving new beauties on the earth. The gladness of truth is like the ringing voice of a joyous child, and the most remote recesses echo with the cheerful sound. To be forever true is the Science of Poetry—the revelation of truth is the Poetry of Science.

Man, a creation endued with mighty faculties, but a mystery to himself, stands in the midst of a wonderful world, and an infinite variety of phenomena arise around him, in strange form and magical disposition, like the phantasma of a restless night.

The solid rock obeys a power which brings its congeries of atoms into a thousand shapes, each one geometrically perfect. Its vegetable covering, in obedience to some external excitation, develops itself in a curious diversity of forms, from the exquisitely graceful to the singularly grotesque, and exhibits properties still more varied and opposed. The animal organism, quickened by higher impulses—powers working within, and modifying the influence of the external forces—presents, from the monad to the mammoth, and through every phase of being up to man, a yet more wonderful series of combinations, and features still more strangely contrasted.

Lifting our searching gaze into the measureless space beyond our earth, we find planet bound to planet, and system chained to system, all impelled by a universal force to roll in regularity and order around a common centre. The pendulations of the remotest star are communicated through the unseen bond; and our rocking world obeys the mysterious impulse throughout all those forces which regulate the inorganic combinations of this earth, and unto which its organic creation is irresistibly compelled to bow.

The glorious sun by day, and the moon and stars in the silence and the mystery of night, are felt to influence all material nature,

holding the great Earth bound in a many-stranded cord which cannot be broken. The tidal flow of the vast ocean, with its variety of animal and vegetable life; the atmosphere, bright with light, obscured by the storm-cloud, spanned by the rainbow, or rent with the explosions of electric fire, attest to the might of these elementary bonds.

These are but a few of the great phenomena which play their part around this globe of ours, exciting men to wonder, or shaking them with terror.

The mind of man, in its progress towards its higher destiny, is tasked with the physical earth as a problem, which, within the limits of a life, it must struggle to solve. The intellectual spirit is capable of embracing all finite things. Man is gifted with powers for studying the entire circle of visible creation ; and he is equal, under proper training, to the task of examining much of the secret machinery which stirs the whole.

In dim outshadowing, earth's first poets, from the loveliness of external nature, evoked beautiful spiritualizations. To them the shady forests teemed with aerial beings, the gushing springs rejoiced in phantastic sprites, the leaping cataracts gleamed with translucent shades, the cavernous hills were the abodes of genii, and the earth-girdling ocean was guarded by mysterious forms. Such were the creations of the far-searching mind in its early consciousness of the existence of unseen powers. The philosopher picked out his way through the dark and labyrinthine path between effects and causes, and slowly approaching towards the light he gathered semblances of the great Reality, like a mirage, beautiful and truthful, although still but a cloud-reflection of the vast Unseen.

It is thus that the human mind advances from the Ideal to the Real, and that the poet becomes the philosopher, and the philosopher rises into the poet; but at the same time as we progress from fable to fact, much of the soul sentiment which made the romantic holy, and gave a noble tone to every aspiration, is too frequently merged in a cheerless philosophy which clings to the earth, and reduces the mind to a mechanical condition, delighting in the accumulation of facts, regardless of the great laws by which these are regulated, and the harmony of all Telluric combinations secured. In science, we find the elements of the most exalted poetry; and in the mysterious workings of the physical forces we discover connections with the illimitable world of thought, in which mighty minds delight to try their powers, as strangely complicated and as marvellously ordered as in the psychological phenomena which have almost exclusively been the objects of their studies.

In the aspect of visible nature, with its wonderful diversity of form and its charm of color, we find the Beautiful; and in the operation of these principles, which are ever active in producing and maintaining the existing conditions of matter, we discover the Sublime.

The form and color of a flower may excite our admiration; but when we come to examine all the phenomena which combine to produce that piece of symmetry and that lovely hue—to learn the physiological arrangement of its structural parts, the chemical actions by which its woody fibre and its juices are produced—and to investigate those laws by which is regulated the power to throw back the white sunbeam from its surface in colored rays, our admiration passes to the higher feeling of deep astonishment at the perfection of the processes, and of reverence for their great Designer. There are indeed "tongues in trees," but science alone can interpret their mysterious whispers, and in this consists its poetry.

To rest content with the bare enunciation of a truth, is to perform but one half of a task. As each atom of matter is involved in an atmosphere of properties and powers, which unites it to every mass of the universe, so each truth, however common it may be, is surrounded by impulses which, being awakened, pass from soul to soul like musical undulations, and which will be repeated through the echoes of space and prolonged for all eternity.

The poetry which springs from the contemplation of the agencies which are actively employed in producing the transformations of matter, and which is founded upon the truths developed by the aids of science, should be in no respect inferior to that which has been inspired by the beauty of the individual forms of matter, and the pleasing character of their combinations.

The imaginative view of man and his world, the creations of the romantic mind, have been, and ever will be, dwelt on with a soul-absorbing passion. The mystery of our being, and the mystery of our ceasing to be, acting upon intelligences which are forever striving to comprehend the enigma of themselves, leads by a natural process to a love for the Ideal. The discovery of those truths which advance the human mind towards that point of knowledge to which all its secret longings tend, should excite a higher feeling than any mere creation of the fancy, how beautiful soever it may be. The phenomena of Reality are more startling than the phantoms of the Ideal: truth is stranger than fiction. Surely many of the discoveries of science which relate to the combinations of matter, and exhibit results which we could not by any previous efforts of reasoning dare to reckon on, results which show the admirable balance of the forces of nature, and the might of their uncontrolled power, exhibit to our senses subjects for contemplation truly poetic n their character.

We tremble when the thunder-cloud bursts in fury above our heads. The poet seizes on terrors of the storm to add to the interest of his verse Fancy paints a storm-king, and the genius of romance clothes his demons in lightnings, and they are heralded by thunders. These wild imaginings have been the delight of mankind—there is subject for wonder in them; but is there any thing

less wonderful in the well-authenticated fact that the dewdrop which glistens on the flower, that the tear which trembles on the eyelid, holds locked in its transparent cells an amount of electric fire equal to that which is discharged during a storm from a thunder-cloud?

In these studies of the effects which are continually presenting themselves to the observing eye, and of the phenomena of causes, as far as they are revealed by science in its search of the physical earth, it will be shown that beneath the beautiful vesture of the external world there exists, like its quickening soul, a pervading power, assuming the most varied aspects, giving to the whole its life and loveliness, and linking every portion of this material mass in a common bond with some great universal principle beyond our knowledge. Whether by the improvement of the powers of the human mind man will ever be enabled to embrace within his knowledge the laws which regulate these remote principles, we are not sufficiently advanced in intelligence to determine. But if admitted ever to a clear perception of the theoretical power which we regard as regulating the known forces, we must still see an unknown agency beyond us, which can only be referred to the Creator's will.

HENRY CLAY departed this life at Washington, D. C., on the 29th June, 1852, and his remains were interred at Lexington, Ky, on the 10th inst. The following dirge, first published in the National Intelligencer, is copied by us from the "Charleston Evening News."

Dirge for Henry Clay.

BY O. B. W., U. S. A.

Hist! Daughters of Music, the mourners are nigh!
The Pitcher is broken, the Fountain is dry!
'Tis the wail of a widow. Columbia weeps!
The LAST OF THE ROMANS in majesty sleeps!
Come! weave we a chaplet of olive and bay,
Our harp 's on the willow. Come! weave we a lay!
How heavy a burden the grasshopper sings:
Wo! wo to the land of o'ershadowing wings!

Ye halls that have echoed full many a time
The silvery notes of his sweetness sublime,
Be ye hung in mourning! that music no more
Shall wake from the Charmer—his charming is o'er.
Ye hearts that in rapture have hung on his thrill,
In you its soft murmurs are echoing still.
Let their euphony glide, and their chorusses roll,
As waves among rushes die over the shoal.
Let them deepen, and startle, and angrily swell
Like a rock that is rushing down mountain and dell;
Let them breathe, let them whisper advice in your ear,
When the dark hour cometh and the danger is near;
Let them burn, let them roar when destruction is nigh,
And the war-cry of Liberty rings in the sky!
While Freedom is calling for word or for blow,
Let his bravery nerve and his eloquence glow;
Let them burn in the bosom of sire and son
While there 's Error to vanquish and Truth to be won!

Ye fields, green with harvests now gathering in peace,
Take ye up the chorus that never shall cease.
His word o'er the ocean gave peace to the land;
His voice in the Senate linked firmer the band.
Ye fields of long ages where glory is wrought,
Behold what a harvest the Reaper has brought!
In the breach ne'er was wanted a freeman to stand,
While life gave its cunning to CLAY'S fearless hand!
And never was needed a voice in the storm,
While his tongue with its motion and music was warm.

Shroud the plough and the anvil, the compass and loom;
Ye artisans gather and kneel round his tomb:
Deck the shrines of Religion in curtains of crape,
And the temples of Learning in cypress leaves drape;
Hang the porches with garlands that bloom in the shade;
Be the scales of blind Justice in sable arrayed;
Your altars and firesides, your domes and your doors,
Be ALL hung in mourning on these happy shores!

And hushed be the bugle, and silent the drum,
No hoarse muffled notes from the battle-field come;
But Peace, gentle Mercy, and Liberty weep
O'er the urn where his ashes still living, but sleep.
Disturb not his rest till the trumpet shall sound
That calls forth the chosen God's throne to surround!

And is there an honor, high office, or name,
One inch that could heighten his statue of fame?
The twelve thrones of Cæsar no Tully could make
One breath of a Tully their empire could shake.

The twelve thrones of Cæsar forgotten may lie,
And Cicero's fame shall resound in the sky;
The Republic's White Palace shall crumble to earth,
And the leaves of CLAY'S chaplet be green in their birth!
One age and one country his deeds but record,
FOSTERITY claims him herself to reward.

Pass on with his coffin; lead on to the tomb;
A nation of mourners follow after in gloom:
His bright eyes shall kindle a thousand no more;
HIS SWEET LIPS ARE SILENT, THEIR MELODY 'S O'ER.

LITERARY NOTICES.

THE WESTERN REVIEW. *A Monthly Journal, devoted to general literature, the science of government, social and political progress, sciences, the ornamental and useful arts.* T. F. RISK & T. E. GARRETT, Editors and Proprietors. The first number of this work consisting chiefly of original articles by the editor and other popular writers of St. Louis, is highly creditable to western literature, and we sincerely hope that our talented and enterprising cotemporaries may receive a liberal patronage from the community for whom they labor. Price $2 in advance.

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August, 1851.

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Trunks repaired in the best manner. Call and examine for yourselves before buying elsewhere, as I am determined to sell as low as any house in the trade, at all risks, No. 42 North Second street [Westside,] between Chestnut and Pine streets, May, 1851.

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May, 1851.

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April, 1851. G. GOEBEL.

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HEWITT & STEINACKER, Saddle, Harness and Trunk Manufacturers, wholesale and retail, No. 67 Fourth street, corner of Pine, opposite the Planters House, St. Louis.

Furniture.

WM. M. HARLOW, proprietor of the St. Louis Furniture Store, manufactures and keeps constantly on hand every variety of household furniture, matresses, window blinds, willow ware, &c.

Also, manufactures to order every article in his line, with despatch. Orders from abroad promptly attended to, and goods carefully packed. All goods warranted as recommended.

New Warehouse, No. 88 Second street, between Olive and Locust streets, St. Louis, Mo.

Slate Yard.

JOHN M. CANNON, Slater, No. 15 and 17 South Sixth street, St. Louis, would respectfully inform the public that, having now completed his arrangements, he is prepared to make contracts for any work in his line. He has in his employ practical slaters, and is well prepared to execute in a workmanlike manner, and with dispatch, all orders entrusted to his care. He keeps constantly on hand, and for sale, Welch slate, rich tiles, sheet lead, slate flagging, slate hearths, copper, brass and iron slating nails, Rosendale cement, and all other articles pertaining to his business. He will strip from roofs zinc, sheet iron, tin, or other covering, and substitute therefor slate. Slate removed from one roof, can be used to advantage on another, which is not the case with any other roofing material. His terms are such as cannot but prove satisfactory. Apply as above.

Brushes.

F. DINGS & CO., importers of German, French and English Fancy Goods, and manufacturers of all kinds of brushes, No. 47 Main street, St. Louis, Mo.

College.

JONATHAN JONES' COMMERCIAL COLLEGE, St. Louis, Mo., incorporated by the General Assembly, January 24, 1849. With full authority to "grant diplomas, award degrees, confer honors, and exercise all and singular, the privileges common to Commercial Colleges, authorized by law in other States."—Charter, Sec. 2.

Young Gentlemen wishing to prepare themselves for business pursuits, are respectfully invited to call during business hours and examine the mode of imparting instruction, the progress of the pupils, and the superior facilities extended to those desirous of qualifying themselves for the practical duties of the Counting House. Personal references given to above one hundred and eighty (180) Practical Accountants now in charge of Books in this city, all of whom have completed their business education in this institution.

N. B. For CIRCULARS containing information in regard to the terms, the course of instruction and all business connected with the above, call at the "Book-keeping Department," corner of Fourth and Chestnut streets, or address JONATHAN JONES, St. Louis, Mo.

Manufacturers.

THOMAS GREY, Blacksmith and Iron Worker, No. 90 North Second street, between Olive and Locust, St. Louis, Mo., keeps constantly on hand and manufactures to order Ox Chains, Sledges, Wedges, and every description of Mining Tools, also Iron Hobbles and Picket Pins. ☞Blacksmith work for Housebuilders, at the lowest prices. ☞He has always on hand the highly recommended Iron Frame Bedstead, and Camp Stool.

G. A. BAUER,

WOOD-ENGRAVER, No. 19 Chesnut street, up stairs, (between Main & Second str., opposite the City Hall,) St. Louis, Mo. Every description of Wood Cuts, Portraits, Fac-similes, Buildings, Type, Labels, Borders, Notary Seals, &c. &c. I would recommend myself by executing at very reasonable prices, the finest work that can be done in this city.

Proofs of my work can be seen at my office.

Paper Hangings.

JOHN S. WATSON, (late of Wilgus & Watson) No. 34 & 40 Pine street, between Second and Third, next door above the old stand of Wilgus & Watson, house, steamboat, sign and ornamental painter, grainer, glazier, whitener and paper hanger; also, dealer in all the latest styles of French and American paper hangings. He keeps constantly on hand and ready for sale mixed paints of all colors, oils, varnishes, Japan, turpentine, white lead, putty, and a large and superior assortment of French and American window glass, which will be cut to any size to suit customers.

Particular attention paid to estimating on houses or steamboats. November

WOLF & ENGERT, importers and dealers in Paper Hangings, Colors and Fancy Papers, No. 49 South Second street, between Elm and Myrtle, St. Louis, Mo. Constantly on hand, all kinds of oil and water colors, paper-hangings, chimney screens, tester pieces, window shades, marble, marroquin, Gold and Silver paper, painters' and Dutch gold bronze, lead pencils, paint boxes, paint brushes, drawing paper, &c. April, 1850.

Records.

PERSONS wishing to obtain transcripts of records in New Madrid county, can procure them without delay by addressing the undersigned. And to avoid the inconvenience of remitting small sums, the records will be directed to George Pegrim & Co., St. Louis, who will deliver the same upon the payment of the fees. WM. MOSELEY,

Recorder of New Madrid Co., Mo.

March, 1851.

Foundry.

S. J. SMITH. T. FAIRBRIDGE.
W. D. WOOD. H. B. HAWKINS.

Missouri Foundry.

FAIRBRIDGE, WOOD & CO., manufacturers of Castings, Iron Railings, Iron Window Shutters, Vaults and Doors; Plumbago Concrete Fire Proof Safes; also, Garrison's Portable Saw Mills.

Office and Warehouse No. 118 North Third street. Foundry, corner Clark Avenue and Eighth street. June, 1851.

Saws and Scales.

ST. LOUIS SAW AND SCALE FACTORY.

LEE, GAGE & CO., manufacturers of every description of Saws and Scales. Factory on Broadway, North St. Louis. Office and Ware-room No. 86 Main street, up stairs.

June, 1851.

ROLIN CLARK, PHILANDER BRALEY.
JOHN RENFREW, ALEXANDER CROSIER.

EAGLE FOUNDRY AND ENGINE SHOP, North-west corner of Main and Biddle streets. Manufacturers of all kinds of machinery, boilers and sheet iron work, portable circular saw mills always on hand, all orders executed with fidelity and despatch.

Manufacturers.

WOOLEN MILL, Canton Illinois.

PIPER & EVERETT, Manufacturers of Clothe, Satinetts, Flanels and Blankets.

Nov. 15th, 1851.

Commissions.

H. W. LEFFINGWELL, Notary Public — R. S. ELLIOTT, Com'r of Deeds.

LEFFINGWELL & ELLIOT, Real Estate Dealers, Auctioneers and Conveyancers, No. 123 Chestnut street, St. Louis, Mo. Real Estate sold on commission, at private sale, or auction. Also, deeds of all kinds written, and acknowledgments taken. Maps of the city and additions to be seen at the office, and information given free of charge. Surveying done promptly and correctly.

GENERAL AGENCY at Dubuque, Iowa, for public lands, real estate, military land warrants, payment of taxes, investigation of titles, amicable collection of debts, and all other business within the legitimate sphere of an Agent's duties, by

CHARLES CORKERY,

Notary Public and Commissioner of Deeds and Depositions for all the North-western States, Missouri included. October, 18'1.

Attorneys.

GLOVER & CAMPBELL, late of Palmyra, Mo., Attorneys at Law, St. Louis, Mo.

JOHN LOUGHBOROUGH, Attorney and Counsellor at Law, office No. 56 Pine street, near Third, (adjoining that of the Clerk of the Supreme Court.

F. HEREFORD, Attorney at Law, Independence, Mo. Office over Thomas & Todd's store.

Refer to Messrs. Thomas & Todd, Smart & Hughes, Coleman & Dallam, Independence, Mo.; Hon. Wm. Scott, Hon. Thos. L. Price, George W. Hough, Jefferson City, Mo.; Tutt & Watson, M. Tarver, Esq., H. Cobb, Esq., St. Louis, Mo.

T. N. WAUL, Lawyer, No. 87 Gravier str.' New Orleans, La.

Refer to Magee, Uthorn & Co.; Lesesne & Moise; Benoist, Shaw & Co.; A. J. Denistoun; S. J. Nicholson; Hill, McLean & Co.; M. D. Cooper & Co.; Lowe, Pattison & Co.; McRae Coffman & Co.; Cockran, Bullard & Co.; C. C. Lathrop.

Dry Goods.

CROW, McCREERY & CO., Wholesale dealers in Dry Goods, No. 71 Main street, St. Louis, Mo. Wayman Crow, Phoceon R. Mc Creery, Wm. H. Barksdale, Wm. A. Hargudine, Charles D. Appleton.

WOODS, CHRISTY & CO., wholesale dealers in Dry Goods, No. 75 Main street, St. Louis, Mo. James Woods, William T. Christy, James C. Christy, Robert K. Woods.

Roofs.

C. M. & H. M. WARREN, manufacturers of Warren's Improved Fire and Water-Proof Composition Roofs, and Roofing Materials, which are kept constantly on hand and for sale (with directions for use) to those in the country who may desire to adopt this mode of roofing.

Office and Manufactory, east side Second street, between Almond and Poplar, St. Louis, Mo. Office hours from 10 to 11 o'clock, A. M., and 4 to 5 P. M.

Fruit Trees.

FRUIT TREES AND SHRUBBERY, for sale by the undersigned, at their fruit farm and nursery. This establishment is located seven miles South of St. Louis, Mo. There are Omnibus Coaches running daily from the City within one half mile of the establishment. The Nursery and Gardens are open at all times (Sundays excepted) for the reception of visitors. Horticulturists and amateurs are respectfully invited to visit the establishment and examine for themselves. In directing the attention of the public to their nursery, they would remark that one of the firm, (Mr. James Sigerson,) has been engaged in the above business for the last twenty-five years; during that time he has tested many of the varieties now growing. This, with the assurance on their part of an intention to increase the number of their trees, as well as to add to their assortment from year to year, furnishes a strong guarantee to persons wishing to make choice selections of fruit, that they can always be supplied. Their prices for trees will be as reasonable as at any similar establishment East or West, and when desired, trees will be delivered free of charge in the city or on steamboats; packed in good order for their destination.

☞ All letters addressed to John Sigerson, St. Louis, or to James Sigerson, Carondelet, will meet with prompt attention.

JOHN SIGERSON & BROTHERS.

Banking Houses.

PAGE & BACON, Banking House No. 139 Main street, St. Louis, next door to the Bank of Missouri.

N. B. Deposits received, Drafts and Notes from all parts of the Union collected and Exchange on the East and South for sale at all times.

Also Branches of Exchange and Banking Houses at San Francisco and Sacramento Cities, California.

LOKER, RENICK & CO., bankers and exchange dealers, No. 132 Main street, west side, third door north of Vine street, St. Louis, Mo. Interest paid to depositors, drafts and notes collected, sight and time bills purchased and sight exchange on the eastern cities and New Orleans for sale at the lowest rates in sums to suit purchasers.

JOHN J. ANDERSON & CO., bankers and exchange dealers on the north-west corner of Main and Olive streets, St. Louis, Mo. Interests paid to depositors, drafts and notes collected, sight and time bills purchased and exchange on the eastern cities and New Orleans for sale at the lowest rates.

L. A. BENOIST & CO., bankers and exchange dealers, No. 83 Main street, east side third door north of Olive street, St. Louis, Mo. Interest paid to depositors, drafts and notes collected, sight and time bills purchased, and sight exchange on the eastern cities and New Orleans for sale, at the lowest rates, in sums to suit purchasers.

Horse Shoeing.

JOHN MULLERY, Premium Horse Shoer in the alley, opposite the Post Office, will as usual pay particular attention to the various diseases affecting the feet of horses, and will guarantee to give general satisfaction in either of the above departments.

Lithographic Establishment.

SCHAERFF & BRO., No. 71 Market street, St. Louis, Mo., are prepared to execute anything in the line of lithography; and especially, as they are in possession of the largest size l lithographic presses and stones, they are able to fill orders of the largest dimensions. They take and lithograph portraits and likenesses from daguerrotypes, engrave or lithograph show bill cards, business and visiting cards, diplomas, music, manifests, labels, facsimiles, bank notes, bank bills, bank checks, bill heads, drafts, bills of lading, maps, town plats, &c.

☞ They particularly beg leave to request the special notice of the public to their crayon drawings and colored lithographs, in as much as this is the only establishment in the West, where thisimproved style of lithographing is practiced

Boots & Shoes.

JOHN HOW. WM. CLAFLIN.
ROBT. COOK. JNO. A. ALLEN.

HOW, CLAFLIN & COOK, dealers in boots and shoes, hides, leather, shoemakers' findings, Tanners' oil, Curriers' tools, &c., 412 Main street, (opposite the Bank,) St. Louis, Mo. April, 1861.

Safes.

M'MURRAY & DORMAN, Iron Railing Manufactory, corner of Third and Pine streets, continue to manufacture at the above establishment, all kinds of plain and ornamental iron railing, balconies, bank and jail doors, book safes, fire-vaults, iron window shutters, iron awnings, lightning rods, bedsteads, gratings, and in fact, any thing which can be formed of iron.

Book Printing.

THE ST. LOUIS UNION Book and Job Printing Establishment. No. 35 Locus street between Main and Second, St. Louis Mo.

CHARLES & HAMMOND. Book and Job Printers, Main street, St. Louis, Mo.

Books & Stationery.

NORMAN'S, 14 Camp street, New Orleans, La. Books and Stationery, cheap Publications, Magazines &c., rich fancy Goods. Prices and qualities to meet your approval.

☞ Orders solicited.

Clothing.

ARCHIBALD YOUNG & CO., 99 Main st., St. Louis, Mo., Wanzer Minor & Co., 126 Pearl street, New York, Moses Wanzen and Henry J. Minor, New York, Archibald Young, St. Louis.

N. B.—We manufacture all of our own goods, and sell by wholesale at the lowest possible prices.

W. L. & J. BIGELOW & CO., Great Western Clothing Emporium, wholesale and retail, No. 124 Second street, corner of Vine. Baker, Nelson & Co., Cedar st., New York

Land Agency Notice.

WORTHINGTON G. SNETHEN continues to practice Law in the Supreme Court; to attend to cases before Congress; to prosecute Claims and settle accounts against the Departments and Boards of Commissioners; to procure Patents at home and abroad; to obtain Pensions and Bounty lands; to collect debts, dividends, legacies and inheritances in any part of the United States and in *foreign countries*; to make investments of funds in Loans and Stocks and on Bonds and Mortgage, and to negociate the purchase and sale of Loans, Land and Patent-rights in any State of the Union. Particular attention paid to California Land Title cases coming up to the U. S. Supreme Court on appeal.

☞ Communications *prepaid*, addressed to W. G. SNETHEN, 5, Carrol Place, Capitol Hill, Washington, D. C., will meet with prompt attention.

TO THE LADIES.

MR. P. A. PIGNERO begs to inform the public, and the Ladies more particularly, that he has taken the store, corner of Fine & Fourth streets, under Planters' House, to which he will remove his establishment for False Hair, of every variety, and for Pomatums, Combs, &c. &c. Mr. Pignero has recently received from the East a large and select lot of Wigs, Cues, and False Hair, manufactured in every style and to suit every taste. He begs for an examination of his stock. Private rooms for ladies and gentlemen, entirely seperate, and fitted up, where consultation on diseases of the hair can be had free of charge.

Washington Steam Sash Factory.

B. PHILIBERT,

WASHINGTON Avenue and 14th street, south side, St. Louis, Mo., makes Doors, Sash and Blinds, Also, Door and Window Frames. Terms moderate.

N. B.—Slitting and Planing done here.

THE

WESTERN JOURNAL

AND

Civilian.

M. TARVER & H. COBB, Editors and Proprietors.

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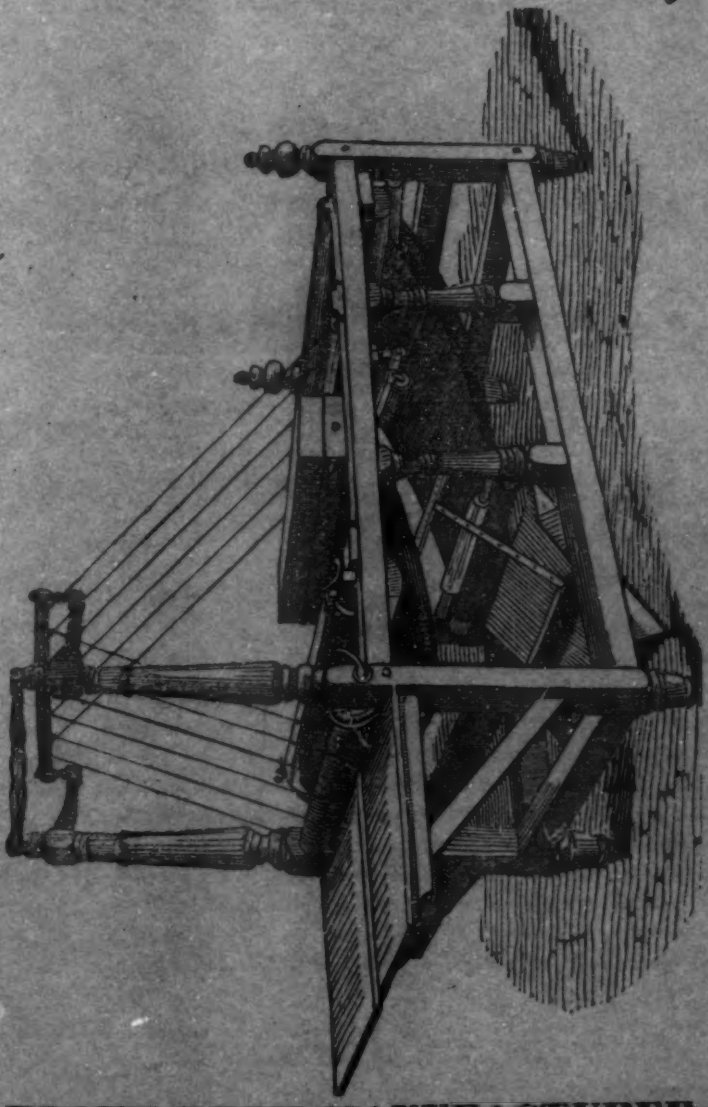

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The Western Journal is designed to embrace every subject connected with Agriculture, Commerce, Manufactures, Mechanic Arts, Mines, and Internal Improvement.

A portion of the work will be appropriated to Statistics, which will be collected and arranged with reference to the leading subjects contained in the respective numbers.

The development of the vast resources of the valley of the Mississippi, and the improvement of the intellectual and social condition of its inhabitants, will be constantly kept in view; and the leading article of each number will be devoted to the advancement of these objects. In attempting to illustrate and give direction to the economy connected with the leading pursuits of the country, the Editors have undertaken more than has been done, or proposed by any other journal with which they are acquainted.

☞ Owing to the enlargement of the work, six numbers will hereafter constitute a volume, and a general Index will be made out to accompany the 6th and 12th numbers.

☞ Publishers of Newspapers who will insert the foregoing prospectus in their papers, once in three months, will be furnished with the work for one year.